Vocational Education

Reprint of the Indiana Vocational Education Law, and of Articles from The Indianapolis News on Vocational Education Methods in Several States and on the Theory of Education Organized to Meet New Economic Conditions

THE REPRINT of the articles included in this pamphlet and of the new Indiana vocational education law, is at the request of the National Society for the Promotion of Industrial Education, of which William C. Redfield, secretary of commerce in President Wilson's cabinet, is president, and C. A. Prosser is secretary; and, also, of the Indiana Bankers' Association and several other organizations taking a deep interest in reorganization of the school system. The new Indiana law is generally regarded as the best, as well as the latest enactment, authorizing vocational education. The reproduced articles were written to illuminate its intent and to give information about experience with vocational education as tried elsewhere. While the articles deal largely with vocational education in New York and Massachusetts this is true only because certain schools and methods in those states are especially described as convenient types illustrating the general subject and it should be stated that vocational schools, both private and public, in many states were visited in the course of the study of the subject. It was necessary to condense the material into ten articles and to write them in popular form for general newspaper reading, and to do this it was found convenient to use as types schools that were last visited on a trip which started in the west and ended in Massachusetts. The purpose of the inquiry was not only to consider the need for reorganization of the present school system and to point out the merits of vocational education, but to find the weaknesses of the new educational proposal and the dangers which it is likely to encounter.

[Indianapolis, June 1, 1913.] THE INDIANAPOLIS NEWS.

EDUCATION FOR THE MASSES DEMANDED

Feeling That Schools Should Reach Greater Per Cent. of Children Is Widespread.

NEED OF VOCATIONAL WORK

Necessity for Training Toward Efficiency Recognized Both by Employers and Workers.

[By E. I. Lewis, Staff Correspondent of The Indianapolis News]

WASHINGTON, April 18.—The educational plant of this country represents a billion dollars of valuc. The annual mere maintenance cost of the common schools is $500,000,000 and another $100,000,000 annually goes to the higher educational schools. The time has come when few who are thinking about the matter, except the educators of the domineering old-line school, are entirely satisfied with the returns from the expensive plant or the great annual outlay.

The product of these schools is now being labeled "book learning." There seems to be an awakening to the fact that at least 50 per cent. of the children—or their parents—in this industrial age realize that they need efficient hand learning. There is a growing protest that is beginning to be heard against taxation which provides an education adapted really to the future bread earning and homemaking lives of only 10 per cent. of the children and leaves the other 90 per cent. who must work largely with their hands, with comparatively no training for the real life work before them.

Why Children Quit School.

Statistics to some folk are always dull. But here are some very simple statements that just at this time should be of exceptional interest and that are easily understood. Cleveland is a typical American city. Fifty per cent. of the children for whom taxation is levied for education quit school by the end of the fifth grade and 60 per cent. do not get beyond the sixth. St. Louis is another typical American city, and it boasts of its public school plant and service, and still 72 per cent. of the children leave school by the end of the sixth grade simply because the children themselves, or their parents, do not find in the schools those things which meet the needs of these children for their future life, or fail to interest the constructive hands of the children. Similar statistics for Indiana are not at this time and place available, but they will be presented in time. It is expected that they will not be far from the national totals, which show that 90 per cent. of the children between the ages of fourteen and sixteen are out of the schools.

There are now millions of boys and girls in this country, between the ages of fourteen and eighteen years, who are out of school and in the wage earning ranks. According to figures compiled by the National Society for the Promotion of Industrial Education, more than seven out of ten did not complete the elementary schools; more than three out of four did not reach the eighth year of school; more than one out of two did not reach the seventh year, and almost half did not complete the fifth grade. Great numbers are said, by investigators, to be able barely to meet the tests for literacy necessary to obtain working certificates, which in most states are based on the work of the fourth grades of the public schools. These boys and girls, as citizens, will be deficient not only in vocational efficiency—in producing national wealth—but in civic intelligence. New conditions are increasing rather than lessening this unfavorable condition. The defect is now held to be largely one of educational policy. Germany's vocational education policy is aimed not only to produce efficient workers to enrich Germany, but to produce a higher, better employed and contented mass of people to understand German problems and to sustain the nation by intelligent and patriotic citizenship.

The elaborate school plant above the purely elementary grades is carried by taxation of all for the benefit of the 10 per cent. or even 20 per cent., if leeway is desired in statement—who are able to play for, or are aiming at, the "white shirt and standing collar jobs" of life. The elaborate superstructure of "higher educational plants and teaching" is for a much smaller percentage, who pursue the "cultural course" to its end. There is provision for educating lawyers, doctors, skilled engineers and experts in farming, and for rounding out the lives of those who are going to take life easy, all at public expense. But, nationally speak-

ing. It seems to be a fact that 50 per cent., or half of the school children of the country, drop out at the fifth grade, and therefore the structure above that grade is for the service of only half the children and considerably over half of them abandon it for the field of productive labor before the elementary course ends.

Protest From Many Sources.

A protest or demand for change is formulating. It does not come from any one quarter. This fact is illustrated here in Washington by the personnel of President Wilson's cabinet. The new secretary of commerce is William C. Redfield, a manufacturer long identified with the National Association of Manufacturers. The new and first secretary of labor is W. B. Wilson, a miner, long secretary-treasurer of the United Mine Workers during the regime of John Mitchell, and equally long identified with the American Federation of Labor. Both of these men have been trained to look on life from different angles of view, but both have one common analysis of the need of the new industrial-commercial age—"efficiency."

An educational plant which does not meet the future needs of, say, anywhere from 50 to 90 per cent. of the citizens of tomorrow and really meets the life needs of possibly 10 per cent. is not, to either, a fulfillment of our national educational claim of "education for and of the masses." Secretary Wilson, as a member of congress, introduced the big vocational education bill into the house, and it took his name and that of Senator Page, of Vermont, in its label—"the Page-Wilson bill." Redfield became head of the National Society for the Promotion of Industrial Education, and in congress the principal second and supporter of Congressman Wilson's bill for federal aid of states for vocational education. Avowedly the bill's provision of $9,000,000 was only an entering wedge by which there is to be begun in this country an overhauling or elaboration of the great educational plant along the lines in which Germany has led in training every child for a greater usefulness and efficiency in his and her life work.

National Government to Lead.

The Page-Wilson bill went into slumber with a lot of other bills in the change of congress March 4, but there is no doubt in the minds of most people here that the national government is going to take this leadership, and probably on a more elaborate scale than the Page-Wilson bill proposed. Six states have already prepared the way for this reorganization. Massachusetts led seven years ago, and it has vocational schools; New York, Wisconsin, Connecticut and Ohio have taken more or less definite steps, and the recent session of the Indiana legislature adopted legislation which is regarded as, by long odds, the most complete for this new organization.

For fear, however, that the attitude of Secretaries Wilson and Redfield may be regarded as personal, rather than representative of great elements of population, it is well to turn to other record. The resolution on this subject, adopted by the last American Federation of Labor convention, reviews the finding of its special investigating committee, which went into the matter with great research. It comments on annual expenditure of $500,000,000 on taxes for popular education, and then says: "Not only are we confronted by this fact (that 50 per cent. of the 25,000,000 children leave school by the end of the sixth grade), but of the 50 per cent. who remain, only one in three finishes the eighth grade, only one in five enters the high school and only one in thirty finishes the high school course."

A. F. of L. for Broad Education.

The A. F. of L. stands for vocational education—efficient education of the masses for their life work. This organization, in its Toronto declaration, showed its broad view of this subject—that merely industrial training would not do. "We want the boy and girl to be taught the fundamentals of civics, the meaning of government, and the reason that the law must be obeyed. * * * He must be made to realize that the boy of today is the voter of tomorrow. * * * He should be taught something, too, of his own economic value * * *." These sentences show very well that more than merely the three R's and training of the hands is contemplated by labor when it talks of vocational education. The concluding sentence of the Toronto declaration was: "We want men as well as mechanics."

Secretary Wilson, in discussing vocational education, said: "Our public school system is the best system of instruction that the world has yet produced. It conveys not only the rudiments, but develops the ability to think. But after we pass the grammar grades our entire system tends toward preparation for the professions and for clerical work. The vast body of our people must, of necessity, be engaged in agriculture and industrial pursuits. Our system has not provided for the young mind and hand to be taught to proceed to the best advantage in agriculture and in the industries. The commercial supremacy of any nation is not so much dependent on cheapness as on the efficiency of its labor."

Where Organizations Agree.

While the A. F. of L. does not represent all labor, and the National Association of Manufacturers does not represent all capital, still it is significant that these two organizations, which are often so radically apart and even in hostility, should have one mind on the necessity of a renovation of the educational plant. Both see that it leads the boy and girl into "blind alley jobs," as both term them—that is, jobs that are temporarily alluring and "better than school where we learn nothing useful," but that lead nowhere for the child who finds himself or herself adrift or working as an adult for a child's wage.

The labor element does not ignore the national asset feature, though perhaps the tendency is to look primarily or largely on the fact that vocational education produces a better, a more rounded out worker and one with a broadness of understanding and efficiency that will fare better in wages and living standards. The Manufacturers' Association urges these points strongly, but it points effectively also to the facts that the time is at hand when we must compete in the great world with finished manufactured products with countries such as Germany, which, with the inspiration of the great Bismarck, is educating every child for his and her work as a skilled, broadly educated, economic factor of the nation.

A Manufacturer's Summary.

H. E. Miles, chairman of the manufacturers' committee on industrial education, summarizes: "Our educators have been like the old-time operators of blast furnaces who threw away the slag as bothersome and worthless, not knowing that with a little care it would some day be made into cement and better the life of the world. It is a question, however, if our educators have not as often thrown away the steel as the cement."

And again, he summarizes: "Other nations, lacking our raw materials, make the cultivation of their human resources the substantial basis of their prosperity and happiness. * * * We must henceforth sell more brains and less material. We export bar iron and import razor blades; export hides and import gloves; export copper and import bronzes; export 14-cent cotton and buy back handkerchiefs that sell at $40; export California prunes and import them back from France as Bordeaux fancy prunes. Professor Fischer, of Yale, estimates the human capital, the human resources of our country, at $250,000,000,000—five times the money value of all other resources combined. We have been developing property value; and our great educational plant has been almost ignoring the greater resource. It is the development of this resource that has made Germany a commanding world power in commerce. France and Great Britain, the other two of our great competitors, are moving in the development of this great resource. Our national future is wrapped up in it, and with it the content of the people."

Industry, as referred to largely in this article, is not all of the problem. There is the girl worker and her future, and the great agricultural interests. The plans for a vocational overhauling of the educational plant of the nation covers those problems. They will be touched in later articles.

BETTER TRAINING FOR WORK OF LIFE

How Vocational Education Is Planned to Hold More Children in School.

ITS NEW COURSES OF STUDY

Effort to Keep Untrained Children From Entering "Blind Alley" Jobs That Pay Little in Long Run.

[By E. I. Lewis, Staff Correspondent of The Indianapolis News]

BOSTON, April 22.—Advocates of vocational education contend that any system that fails to meet the lifework needs of 90 per cent. of the children of the country and fails to hold 50 per cent. of them in the schools beyond the fifth grade is plainly defective. They propose to remedy this condition of affairs.

Broadly stated, it is proposed that the school plant shall give fundamental and elementary academic training, but shall also directly train the children for that to which their hands will be put for a livelihood. And it has already been shown that under present conditions, at least, it is inevitable that 90 per cent. of the children who are in the schools will have to work with their hands.

Under the proposed change the schools will teach "applied knowledge." At present, it is asserted, they are wholly teaching "organized knowledge with deferred value," or academic or cultural knowledge. Applied knowledge is that which shall have immediate value—vocational application.

"Applied Knowledge" Courses.

The new education does not mean that the schools are wholly to abandon the field of teaching organized knowledge with deferred value. It does mean, however, that in addition to teaching of this character the state shall provide schools or definite, separate courses of study, in which three "applied knowledge" courses shall be taught. They are:

1. Industrial education. There are over two hundred and seventy industries in Indiana. Not ten of them are within the definite aim of the present plan of education. The industrial education proposed does not mean public schools or courses of study in each community that will bring the boy or girl with a certain knowledge ready for effective application to the door of each one of these industries. It is not expected that any city in Indiana will even equal Munich's forty-seven different specific vocational courses. But courses can be selected that will be largely adaptable to the needs of the state's industries.

2. Agricultural education. These schools or courses are to apply knowledge and trained skill to the tillage of the soil, care of domestic animals, forestry and other useful work on the farm—are to forward the work of making two blades of grass grow where one or none is growing now, and to meet with increased products of the soil the tremendous increase in the number of mouths to feed. It is to be, in short, an effort to raise Indiana's average yield of fourteen bushels of wheat an acre to Denmark's forty-two bushels, to bring Indiana's average of ninety-two bushels of potatoes an acre up to Germany's two hundred bushels average; to raise Indiana's twenty-nine bushels of oats an acre to Germany's 50.7. This is the great problem of the nation's future—food's efficient production and with it goes the study of marketing.

3. Household arts education. This is necessarily for the girls in school. The constant change from an agricultural to an industrial, or, rather, manufacturing status, is increasing the number of girls that go into productive or wage-earning industry, and the industrial education outlined above, is by no means limited to boys, as will be shown in articles descriptive of girls' industrial schools. But girls also need another kind of "applied knowledge." It is still necessary to build a girl's education, no matter whether she is immediately destined to wage earning, on the expectation that she will marry, have a home and be the mother of a family.

"Dismal Procession of Untrained."

Here, briefly is surveyed the broad field of an educational plan which will bring the boy and girl up to the threshold of life's work much as the present system brings the lawyer, medical man, engineer and other professional workers. This education is especially proposed for boys and girls between the ages of fourteen and sixteen years. The new Indiana laws also provide for preliminary vocational training in the elementary schools. It is expected that by the time the child is fourteen, it will have acquired a "common school education." This "cultured education" is not to be eliminated after fourteen years of age, but where the vocational schools or classes are established, at least half of the time is to be given to education of direct vocational aim and value. The last Indiana legislature also extended the state's control over children from their fourteenth to sixteenth year.

W. C. Redfield, in his recent address in Indianapolis—just before he was elevated to the cabinet as secretary of commerce under President Wilson—remarked on "the dismal procession of the untrained that emerges from the schools and comes into the factories," which he showed must be industrial kindergartens. The reason that the German factory system is so impressive today is that the factories have ceased to be kindergartens. With children trained into young manhood and womanhood to enter the work, the German factory can devote itself to the problems of production instead of schooling. Anyone who knows world commerce knows it is foolish to argue that this is solely to the benefit of the manufacturer. It is one of the things that has made the world spell Germany with a very large "G." The same application can be made to the farms. Little, poor-soil Germany produces 95 per cent. of her meat, 85 per cent. of her breadstuffs for her millions.

There is another side to this kind of a schooling. It is of direct personal, pecuniary advantage to the individual. Take the boy especially, and also the girl, who, with the parent behind the child, tires of a schooling that has no apparent or immediate connection with the life. Just as soon as the child gets past the compulsory attendance age, the boy especially—and more and more often with each succeeding year his sister—drops out of school. Thus it comes that, taking the country over, from eighty-eight to ninety-two children out of a hundred of fourteen to sixteen years, are out of school.

"Blind Alley" Jobs.

The boy or the girl enters, more than often, a "blind alley," or a "dead end" job. That is a job that offers a fairly attractive wage for a child, but leads to nowhere but a shifting, shiftless life or to a child's wage for the adult that stays with it.

Vocational education aims are to equip such children with the particular general schooling for industry that will lead to development. This thing has been reduced to figures. A lifetime of work in a "blind alley" occupation will bring in $20,000; an education which leads on in industry will yield $40,000 in a lifetime. And this is industrial, not professional work that is being discussed.

The national interest in such education is great, as Germany has shown. We sell Germany, for example, 14 cents' worth of raw cotton, representing little labor and still less brains. Germany sells us back that cotton for $40, representing $39.86 worth of labor, skill and brains. This analysis can be carried on indefinitely. This nation has the raw materials. It needs the fully developed worker—the $40,000 industrial worker instead of the $20,000 one. This, it is argued, also means better homes, more buying and selling, more children, and higher general intelligence. Whenever we raise two potatoes for one and educate our people in marketing, it means cheaper and better living, too.

Plan for Relief

The plan briefly outlined for making all citizens efficient—though, of course, all never will be so—is as follows:

1. Preliminary industrial, agricultural and domestic training in the grades which will serve as giving an opportunity for expression and guidance in picking out a vocation.

2. Vocational training, beginning at fourteen years and lasting at least through the early adolescent age, to sixteen years. This is to be given in schools that run all day just as the present schools do, but in which the academic education is secondary to, and fitted into, a general plan to produce a worker for a vocation. These schools, however, may be so organized, that children who, at fourteen years, enter on a wage-earning employment, may or shall go to them part of their time; and hence this form of vocational education is called "part-time schools." In these schools the study is is to be directly aimed to round out, broaden the horizon, make more skillful and more thoughtful the child in the particular industry in which it is at work—to remove, in short, the dead wall. The third form of such schooling is the evening school, which is open to all of sixteen years and over, already engaged in useful employment, and which, again, shall deal with the employment in hand or the development desired.

Indiana's Vocational Law.

The new Indiana vocational education law provides for all of this. It will be discussed, and the dangers confronting the new proposal will be pointed out in later articles. It is well to understand, however, that the plan for this schooling of all classes does not contemplate releasing the child from the school system at 14 years, nor even at 16. The new Indiana vocational education law bears testimony to that fact. It provides that the "all-day" and the "part-time" vocational education shall be "restricted" to persons over 14 and under 25 years of age, and that the evening schools shall be open to persons over 17 years of age—no limit being placed at the other end. How this works in schools already established will be shown in other articles.

TRADE TRAINING OF GIRLS IN NEW YORK

Fact That Most Girls Expect to Marry Produces Some Special Problems.

PART THAT POVERTY PLAYS

Difficulty In Attending Even Vocational Schools Shows How Far "Cultural" Schools Miss the Mark.

[By E. I. Lewis, Staff Correspondent of The Indianapolis News]

NEW YORK, April 25.—"The problem of vocational education for girls, as those who have to do with the administration of your new Indiana vocational education law will quickly discover, has peculiar limitations," said Miss Florence M. Marshall, principal of the Manhattan Trade School for Girls, as she led the way through the best known vocational public school for girls in this country.

"The very thing that makes a boy, or young man, strive for or at least appreciate vocational efficiency is the thing that causes girls not to be impressed with the need of such great efficiency. The boy is entering industry for a life work and he wants a training that will advance him and give him permanent occupation at good wages; and he, or his parents, counts on a wife and family to support.

"The girl expects to marry—she is going into industry only temporarily. She comes to us only to get training that will land her in a job and will give her better wages than she otherwise would get, pending the time when she marries. She is actuated by our statement—which the girls know to be true—that almost every girl that comes to this school and takes the year's course is placed directly in a job at a wage of at least $5 a week.

Great Demand for Trained Girls.

"The manufacturers and shop people besiege us for our trained girls, and girls who show such special aptitude that we can especially recommend them get from $6 to $7 a week to begin on. Girls who remain more than one year and who take positions as straw machine or hat operators, can reach $12, $15 or $18 a week during the first season out of school, but they do not, however, have a full year of work in the straw machine trade. Special embroidery machine operators frequently reach $8, $10 or $12 during their first season at the trade. The girls know that this public school puts them into paying employment. It is difficult to hold them a year. On some the economic stress—due to the conditions at home—is great.

"In the time that we do have them in this public school heading them directly for their trade, and without much deflection in any kind of training, we handle every one individually and promote her as fast as she herself, regardless of any slower associates, shows that she can advance. Opportunity is given to training on all machines and in all branches of her chosen trade.

"Placement Secretary."

"The school is running except during August, and pupils are admitted on Monday of each week, which means that the membership is constantly shifting. A diploma is given to girls who complete the course in the trade selected and the course can be completed by the average girl in one year. Those who are thus graduated are placed in good positions. We have more demands than we can supply for good workers and for this work we maintain a 'placement secretary.' Her work is a great part of the school's plans. She not only keeps in touch with the demands of employers, but also with the girls we place. If they are not well selected for the work, she sees that they are shifted, or if, for any reason, the girl at any time is out of employment as a graduate of the school, she can avail herself of the opportunities of the placement secretary to replace her. Thus we are certain that our girls get a right start, and, of course, under the right kind of employers."

Little Like an Ordinary School.

There is not much similarity between this school and the ordinary public school. The school building itself, housing the best known and largest vocational school for girls in the country, and under the management of a woman who is credited with being one of the most active forces trying to solve the new educational problem as applied to girls destined at least for a time to industry, bears no physical resemblance to the typical schoolhouse. The Manhattan Trade school for girls is in an ordinary business building, differing in no respect in outward appearances from the other tall business buildings making the solid north wall of Twenty-third street, just beyond Third avenue. It is down in busy New York, just over on the "east side."

Inside, especially on the top floor given over to high power sewing machines of all commercial types from those used by garment manufacturers to the special machines used in straw hat making, there is the hum and air of a real factory or series of commercial workshops. There are, here and there, study rooms, which have some semblance to a school, and downstairs, on one floor, is an assembly hall, or chapel, where pupils are gathered daily and in which there is maintained the school spirit.

Effort to Train Within a Year.

"We are trying to meet the demand here," said Miss Marshall, "to equip the girl for industry in a year at the most. Therefore, our days approach the length of the factory day. We begin at 9 in the morning and the day's work ends at 5, with one hour for lunch. We have only a month of vacation, and get in 1,575 hours a year, compared with 965 in the high schools. The girl selects her trade and then we train her directly at that trade without any frills, and as she nears the end of the course we begin to require approximately actual trade speed and exact trade requirements.

"This is, indeed, a factory," Miss Marshall explained. "We work on stuff which is contracted for, but we only make those things which have educational value. Working on real commercial product, we get a great deal of the real factory or industrial conditions. We teach, as purely vocational—actual industrial trades, (1) dressmaking, (2) millinery, (3) lamp shade making, (4) clothing machine operation, (5) embroidery machine operating, (6) straw machine operating—hat building (7), sample mounting, and (8) novelty case making, which includes elementary sample mounting and the making of fancy cases, desk sets, scrap baskets, and a large variety of novelties in cretonnes, brocades and other materials."

Character of the Trades Taught.

As will be shown in another article, the temporary character of girls' expected industrial life has thus far resulted in vocational training being pretty well limited to those trades that used to be carried on in the home when it was the factory, and which will, at the same time, possibly serve the girl in her home when she does marry—if she does. Notwithstanding expectations, a greater and greater number of girls enter the wage-earning world permanently. Marriage may even bind her the closer to it and, altogether, though girls fail to see it, their industrial training, it is argued, should be more comprehensive than they really will accept.

The Manhattan Trade School for Girls, like other such schools, impresses on the investigator the fact that though a majority of the children drop out of school at fourteen because of no pressing necessity, still there is, at least in every city, an element whose economic distress is such that every member of a family must early become a contributor to the family revenues. The economic pressure here is especially apparent. These girls must go to work, and in this schooling the state is furnishing an education that they need and that increases their efficiency for industry and their own financial return.

Aid to Many Unable to Afford School.

The "philanthropic side" of this, or the "ethical defect" will later be touched on. In fact, practically all of the girls in this school are from the ranks of the common or most menial workers. This is their way to something better in life. Here, and in some other such schools, a "student aid fund" is part of the "equipment." This fund is contributed by friends of the school. It is used to help worthy girls who could not afford to attend the school—or any school—and who would be forced into sweat shops unless some means were provided for street car fares, luncheons and even, in some cases, clothing. During the last year over seventy-five girls have been so assisted.

All this adds to the "philanthropic defect," but nothing could more emphatically demonstrate the total inadequacy of the old line "cultural school" to meet the educational needs of this element in every city. There is considerable to be said on the side of such education, which makes girls dress makers, for example, and starts them in at living wages, and shows that 63 per cent. of those that are thus educated and cared for are in their second year making $9 or more a week.

Teaching of Hygienic Needs.

In a brief newspaper article it is impossible to do justice to the efforts made in so short a time to do more than industrially train a girl. No girl enters this school except after a searching physical examination. Girls from the tenements too often have infested heads, wax sometimes is hardened in their ears until it has to be syringed out, eyes are bad and teeth are worse. Often there is curvature of the spine or other serious defect. The young men and women study-

ing in the nearby medical, surgical, dental and other colleges, are called on to do plenty of work to produce a girl sound for industry—one who will not, for example, have to lose time because of toothache. The results of this work are little short of marvelous.

Girls are also taught that a good factory worker should not have finger nails gnawed off deep—or at all; and that pleasing appearance, good manners and gentleness are industrial assets, to say nothing of matrimonial. Every girl has to have clean head, clean ears, good teeth, etc., and keep up the established standards. It has been the awakening of many girls, and this, in a sense, is citizen making. Girls are taught physical exercises which, as workers, they should have. They are taught how to stand on the restful outer rims of their feet—a great thing to a girl of weak arches. Curvatures are corrected; some girls can not enter work which requires standing, and trade selection is changed. This side of the work is impressive and especially so when the girls are seen, as finished product and look so healthy and well-mannered. They are advised in matter of dress.

Besides Trade Teaching.

While five of the seven hours of the school days are applied to the desired trade, other things are taught. There is arithmetic, but not the old kind. It is the business arithmetic of the chosen trade. English also is of the "applied" type, and there is study and training in design and testing and study of textiles in matters of costs, widths, durability, weaves, prints, dyes and economies.

Then there is a study of industrial problems—of the factory system, divisions of labor, sweatshop methods, work of Consumers' League, trade unions, child labor committee work, labor law relating to and protecting women and girls, factory inspection, and sanitary requirements in the factory, and what they should be in the worker's home. The spirit of nationality and the common good is in this work. There are also physical training and gymnasium work and a severe training in personal cleanliness. There is also small incidental training in cooking, in preparing and serving the daily luncheon.

In addition to this all-day school work, the Manhattan School for Girls also, in night classes, works with the girl in industry who wants more special industrial training, or certain home arts.

In short, New York is one among the leaders that recognize that our changing economic life has touched the woman—the girl. It has touched the home which was the first, the great, factory wherein the cloth was spun, the corn was ground and made into food, and even the lighting was cast in candle molds and the soap prepared out of the fats by the action of ashes and water on them. The woman's early work has been taken away from her, and she often reduced to an idler in the home, and later economic pressure has begun to force her out of the home.

Whether there is a direct connection between less than a living wage and immorality may yet remain a question to be debated, but it is generally recognized that it is not a good thing for womanhood or for the future citizenship of any nation to have girl and women workers giving their last ounce of vitality and energy in competitive industrial life for less than what their bodies and minds demand in proper nourishment, proper living conditions, proper diversions. It is also becoming more generally recognized and taught in these schools that not only does a living wage for the workers constitute the first just claim on industry, but that when unskilled and other laborers work for lower than living wages they are tearing down not only fair industrial conditions in this country, but also the home. It is recognized here that the competing inefficient female worker is, by reason of her very unpreparedness, the greatest menace to her own class and to others.

WAGES RAISED BY SCHOOL TRAINING

How Massachusetts Girls Have Been Benefited by Vocational Education.

HOUSEHOLD ARTS POSTPONED

Experience Shows Young Girls Are Not Interested—Go to Night School Later When "Man" Appears.

[By E. I. Lewis, Staff Correspondent of The Indianapolis News]

BOSTON, April 26.—A description of the Boston Public Trade School for Girls would, largely, be a repetition of the article telling of the work, methods and aims of the Manhattan Trade School for Girls.

Here, however, compared with New York, the economic conditions which throw girls into industry more nearly approximate that of Indiana cities that may, under the new vocational education laws, be confronted with the problem of giving to girls the vocational education that they need.

At the Manhattan Trade School for Girls the economic need of the girls—or rather the economic pressure which is forcing them out of homes as soon as the law will let them go to work—is strong. Here, and in all the Massachusetts cities, as in Indiana, the economic pressure is not so insistent. But it is here, and in Indiana cities, nevertheless.

Meeting of Economic Needs.

The trade school and other vocational school work for girls in Massachusetts impressively brings out the fact that there is a large, and increasingly large, number of girls to whom the ordinary schools after, say, the fifth or sixth grades, do not give the practical wage returning education that they or their home conditions require.

At fourteen they are free to go, to a limited extent, into industry. If training is not provided they enter industry here at a wage of about three dollars and forty-three cents a week and, too often, get into a "dead end" or "blind alley" job—that is, into a work that offers no future. The Boston Trade School for Girls which, like the Manhattan Trade School for Girls, aims in a one-year course, free of frills, to put the girl directly at the trade she has chosen, showed an average of $6.16 a week as the beginning wage of its girls in 1910-11. It is probably higher than that at this time.

Value of School-Trained Girls.

The commercial producers who employ girls have learned that the state is giving an effective apprenticeship which all specialized industry itself has largely discontinued, and the result is that there is not only a great demand for girls trained in the public schools, but the wages offered to them to begin on have gone up in the last two or three years from about $5 a week to $6, and sometimes girls are placed at higher beginning wages than this. The testimony from the trades is that these girls—who, mark it well, are trained by teachers who themselves were taken from the shops or factories—are ready to go to the machines with valuable goods at once. Their opportunity and training in the schools to work on a variety of kinds of commercial machines, or do a wider range of hand work in their trades, makes them capable of quick advancement in pay. They also, in being able to operate many kinds of machines or do various phases of the work of their trade are able to shift from one kind of work to another as dull seasons affect certain work. Untrained girls, only skilled in using one machine, are laid off when that work is "short."

But, as in the case of the Manhattan Trade School for Girls, the better introduction into wage earning and wider adaptability is only part of the advantage. The school places the girl under moral surroundings, as well as making possible a living wage. Here, also, there is the effective "placement secretary," who not only puts the girl in a place but keeps a record of and guides her, and maintains a connection with trade in general whereby any graduate has a constantly opened avenue to occupation.

Regeneration of Trade.

There is something, also, in the argument, that some such agency as this, having only in mind the public welfare, will work a certain regeneration in trade. If manufacturers find that it pays them to pay a trained girl $6.16 a week to start on, there may be a lessening of the number that pay less than a living wage. Thus, it will be seen that those who desire to step beyond the mere realm to technical education to its relation to personal and national morality have much field for hope.

Massachusetts, for example, is the leader in the minimum wage for women movement. It has translated the demand for a living wage into a law that is now about to go into effect. But if industry is required by the state to pay a minimum wage to women, the question arises as to the right of industry to demand an efficient worker. At all events, competitive conditions are going to force that, and the girl who is not trained, but who is forced by economic conditions into the working world, will have a new problem on her hands.

Effect of Marriage Expectation.

It is impossible in these girls' trade schools to get away from the sex point of view. In the article on the Manhattan Trade School for Girls recognition was given to causes that result in limiting all girls' trade schools in their work to preparation for a restricted number of industries to be entered on "until the girl marries." It has been mathematically calculated that "a girl's industrial life is seven years." Because of the presumption that the average girl is going to marry, it is thought advisable to teach her those industries which may be of value to her in her later homemaking life. Therefore, she is trained for commercial dressmaking, millinery and kindred trades, and for high power machine work in clothing and hat and such lines of manufacture. In as much as the girl thinks she is going to stay in industry only temporarily, those trying to solve the vocational education problem have thus far not seen their way clear to give her as thorough a training as is given boys who go to work for life.

But the consideration of sex psychology here in thinking Boston is leading further. Girls differ from boys, it is asserted, in as much as they work only from two motives. The first is love; the second is absolute necessity. Often the two motives are merged into one. The impelling motive sometimes is love or duty to

an overworked mother, often to little brothers and sisters, but always it is the need to do something for somebody. Few if any girls enter a trade school except because of economic stress on the home. Furthermore, most of them do not like to be classed as factory girls and they will take enough of the commercial dressmaking work sometimes to obscure the real fact that they are there for the purpose of entering a clothing factory as a high power machine operative.

Changes as to Household Arts.

All these factors enter into the solution of the problem. Here, in Massachusetts, where vocational education was first taken up by the American public school, there is also a tendency now to eliminate instruction in household arts from the vocational schools for girls. It is another case of sex psychology. The theory is being seriously set up that at about fourteen—the beginning of adolescence—girls, as a rule, lose their interest in becoming a housekeeper, and it is not until "the man" appears on the scene that there again appears, often magically, the natural bent of most young women. The tendency now is to cut domestic training out of vocational education and to give the girl the wage earning training she wants, but to provide night schools to which, it is discovered, she will go when "the" man does appear on the horizon. Therefore, the tendency is more and more toward short time, highly centered direct vocational training of girls of fourteen or over who are supposed already to have acquired as much of the cultural education as they can really afford. During the vocational training, however, a certain amount of academic training directly applied to "her" prospective industry is taught and, as in the Manhattan Trade School for Girls, there is also given schooling in industrial conditions and laws, in personal conduct, morality and cleanliness; and physical corrections and development are attended to.

Many other phases of this problem that Indiana is taking up are worth thought. There is developing a group of leaders who look on this trade education of girls as being "philanthropic," in the sense that it deals with the individual in providing skill for temporary use. They stand on the ground that vocational education by general taxation is justified only when it creates a greater efficiency in industry which amounts to a national asset, such as superior training has produced for Germany. They point out that in such girls' vocational schools the individual rather than the industry is benefited per se. Of course, a long argument can be made for and against this stand. It will come up in Indiana.

Costly Buildings Not Needed.

There is one valuable lesson that the experience of the Boston and Manhattan Trade School for Girls teaches emphatically. That is, that school buildings of the expensive type are not necessary. The Manhattan Trade School for Girls is in a business building. The Boston Trade School for Girls is in old, but good, connected residential buildings. In both instances the buildings are rented, the capital investment is kept low and the rental is not high. These buildings are better in some respects than modern school buildings. The schools run eleven months in the year, and a great deal of the work here is done in the open air under tents or awnings in courts, or on extended platform porches, behind the buildings. Such buildings do not have to be in the high rent districts.

As for the efficiency of the Boston school, it can not be doubted it gives the girl a public schooling that is immediately translated into wages. It gives her what her economic condition needs and what the "culture" school does not give her. Here, as in New York, the school is open at night for special training on work or machine that the girl needs for advancement, and she is free to come as can all other women. It is impossible, and not necessary, to describe other schools for girls in Lowell, Northampton, Newton, New Bedford and other points. Application of these general principles is locally determined.

Massachusetts maintains a large number of night schools for girls. They are of various types—schools to which girls in industry may come for additional efficiency, in which girls in industry may get a training for household duties when, possibly, "the" man appears, and in which women of all ages may come for training of various kinds. About eight thousand people are in the public vocational day and night schools, and a very large number of them are women.

Thus far Massachusetts declares itself only to be experimenting with the great problem of common schooling for the masses, and trying to evolve a system which can be made pretty general. It is well to note that the products of the Boston schools are sold and that, though the girls are not exploited, this by-product of education aids materially in meeting expenses as well as in setting a commercial standard of workmanship. One statement indicates that the public cost of the Boston school is only about $10 a pupil.

WHY CHILDREN WORK.

Too many of the old line of educators who are in control of the educational plant of the country have not taken recognition of the conditions which have changed our national life and are forcing the child into industry. Helen M. Todd, in her article on "Why Children Work," in McClure's Magazine, of the April (1913) issue, lifts the veil a little on the changed condition and educational needs of the child in industry—and the mass of them must go into industry. She says:

Ask any twenty children in a factory the question: "Why are you working?"

Over and over again, in answer to the question, "What does your father do?" the reply is, "He's sick"; and the same story unfolds in every factory from most of the children you question: "He's got the brass chills"; "He's got consumption"; "He's got blood poisoning"; "He's paralyzed"; "He can't use his hands"; "He works in a foundry, and the cupola burst, and he got burned"; "A rail fell on his foot, and it's smashed"; "He's dead—he got killed." He worked in the steel mills, or the stockyards, or on the railroad, and the engine ran over him; he was burned with molten metal, or crushed by falling beams, or maimed by an explosion.

These stories, told in the soft voices of little children, are endless. To the question, "Did your mother get any money from the company?" the answer is almost invariably, "No," or a shake of the small head, the child not caring to take enough strength from its work even to speak; and when you ask, "How many children are there besides you?" the numbers usually range from five to seven. And when you say, "How many are there of you who are working?" the answer is sometimes one, sometimes two, seldom more; and often, without looking up, the child answers: "My mother she works, and me." "And how much does your mother make?" "She makes 18 cents an hour, scrubbing downtown." "And how much do you make?" "I make 6 cents a thousand, pasting on cigar bands." "And can you and your mother earn enough money to take care of the family?" "Yes, ma'am," she answers; "we gotta."

ONE WEEK IN SHOP THE NEXT IN SCHOOL

Vocational Training of Boys at Beverly Illustrates One Massachusetts Method.

USE OF MECHANIC TEACHERS

Provision of Skilled Workmen as Instructors Is Point of Vital Importance for Success.

[By E. I. Lewis, Staff Correspondent of The Indianapolis News]

BEVERLY, Mass., April 27.—The vocational schools of Massachusetts present the striking difference in the problem of giving boys and girls industrial education. This difference is typically illustrated in the Beverly vocational school.

As types, the Boston and New York trade schools for girls illustrate the fact that girls intend to marry; that they are forced by economic pressure into industry; and that their industrial life being, because of matrimony, only seven years, the field of training is limited and the period of public schooling for it also is limited to approximately one year.

As a type, the Beverly school forcibly presents the fact that boys deliberately, rather than by economic pressure, enter industry; that they enter it for life and that, perhaps unconsciously, expecting responsibilities of married life, they are moved to aim for efficiency in training that will insure them steady work at good wages and good chance of promotion. Always, of course, speaking in general terms, they can be made to see that denial of immediate, alluring "boy" wages will pay great deferred dividends.

No Suggestion of Philanthropy.

Because of this wholly different condition it is possible to give boys vocational education that really results in a higher efficiency and standards of industry, and therefore creates a national or state or local asset. This is free of all suggestion of philanthropy. Broadly speaking, taxation for vocational or any other kind of education is only justified, many hold, when it produces an asset of society in increasing the efficiency of and for society. The Beverly school, again used only as an illustrating type, presents the essential difference between philanthropy and the creation of national or local efficiency.

Except periodically during the last four years, when it has been the "summer capital" of the nation, Beverly is always overshadowed by one commanding industry, as, for example, Gary is by the United States steel plant. It is the plant of the United Shoe Machinery Company—"the shoe machinery trust." While this concern by its monopolization of shoe machinery manufacture, and its control, through leasing systems, of the shoe industry, may run afoul of the government anti-trust policy, it is certainly a great thing for Beverly. It employs more than four thousand men and its product requires highly skilled workmen. In fact, if a boy does not get into this plant he,

industrially speaking, pretty nearly has to get out of his home town.

Adaptation to Local Demand.

The vocational school here, because of these conditions, is peculiar, but it illustrates what might be done, for example in Gary—or in Indianapolis, which specializes in automobiles. Half of the school—the mechanical side of it—is in the United Shoe Machinery's plant. Its equipment is furnished by "the Shoe" and the company pays about half the expense, the other half being divided between local taxation and state aid. Of course, all the boys who go through this school are aimed directly for work in "the Shoe's" plant, and the taxpayer is putting up half the cost of educating the boy for the company's service—covering half the cost of apprenticeship.

These questions are going to come up in Indiana and are of greater and deeper interest to both the manufacturer and the taxpayer than really the school's organization for work. As to the latter, the boys who enter the Beverly vocational school are going into industry for life and are aiming for efficiency. The vocational school is under the direction of business men representing the employer and employe classes. Expert workmen are teachers. The course theoretically begins at the fourteenth year and it cuts out of the boys' lives the "cultural" high school or such upper grades in the grammer school as have not been reached. The vocational school course itself is two and a half years, but it really follows the boy into the factory when he is a full-paid workman, and it may hold him under its direction three or four years before a graduation certificate is won, though in the last year or two years he may be working at full wages.

One Week in School, One in Factory.

The school is practically in session continuously, though this week one half the pupils are at work in the factory school and next week the other half will be there. The "Shoe" has set aside one big section of its mammoth and beautiful plant for the schooling. It has stocked it with all the machines needed and, furthermore, the instructor is permitted to go through the plant and pick out such work as he finds of educational value. In commercial lots, the individual student is put to work on it as a study—working, shaping and fashioning it to blue prints, copies of which he must make.

The company, of course, requires that its material be worked up into parts without flaws and then it buys that which does pass those requirements. The defective materials have been reduced to 1 per cent., by efficiency. The pupil gets half this pay and the company places the other half into a fund used to pay half the cost of certain teachers or instructors. The boys in the shop one week are applying directly those things that, in the vocational school class and drafting rooms and laboratories they were studying the week before, and they also take the problems they encountered one week in the shop back into the vocational schoolhouse for study the next week.

Mechanic Instructor's Work.

One "shop" instructor is constantly in charge of the factory school or workshop, and there is at the vocational schoolhouse one director and an instructor in applied science. But there is always with his class, this week in the factory and next week in the school, the "mechanic instructor," and he connects the work.

Of course, for this work the instructor has to come from the industry itself—be a finely trained mechanic or workman in whom has been developed the pedagogical side to a certain extent. This is a point that a special article is later to cover, but here it is well to point to its local application. First, this company would not place the thousands of dollars' worth of machines at the disposal or use of any school teacher. Secondly, the company would not spend thousands of dollars for this schooling if it did not produce commercial product and give expert knowledge that no old-line school teacher has, or can obtain. Third, there is that in a boy's nature that not only wants the practical thing, but that demands the practical man and respects him though "academically" he may have rough edges. Fourth, in this work it is impossible to make an old-line pedagogue into an industrial instructor of this kind; it is the man who has the years of skilled training and advancement who can become the instructor.

Point of Vital Importance.

The importance of this can not be overemphasized. It is the rock on which vocational education founders when the "cultural" school people insist on a reversal of the rule. It is the thing which, either in boys' or girls' vocational schools, determines whether vocational education is to be vocational education or only another layer of manual training rejected by a large majority of boys at fourteen because it "teaches nobody anything to work with."

Let the test be local here. What the boys and the company both want is the same thing—high wage yielding work. Superintendent Robinson, of the machine department, employing seven hundred machinists for which most of the boys aim, said: "These boys who come to me after two to two and a half years of this schooling; to go to work on full wages, are better workmen than most men who have been in the shops all their lives. They soon are making better wages. Why? Because modern industry is necessarily reduced to specialization. A man goes on one piece of machinery and becomes very expert on it, but he may be utterly helpless on the next machine to him. Remember this: There are many 'machinists' now, but few 'mechanics.' There is the difference.

"These boys are trained to study and think and to work on all the fundamental machines. They get the science and theory and a rounding out of trade 'academic' training, and the art of study; and they know something, as mechanics, of draftsmanship as well as how to read all kinds of blue prints, and have a theory of personal conduct, discipline, responsibility and citizenship. They have general educational enlightenment.

Advantage of Adaptability.

"The results are manifold. Suppose we are rushed today or this season on a certain kind of lathe work. Here is a highly skilled man on a milling machine who doesn't know anything about the lathe work, but here is a man from the school who knows one as well as the other. To us this means production; to the worker steady wages and no layoff. Again, here is a man who knows the problems of the draftsman and can see beyond that blue print; a man who has a new, real appreciation of small parts because he knows how to make and apply them, and of measurements such as a ten-thousandth of an inch which we employ in machinery making; and he realizes why they have to be so fine and that a thousandth of an inch departure in a single tiny part means a defective great machine, inasmuch as it will not work with such fine precision or perfection. The school aims only to produce good machinists, but they have gained the things that push men ahead and even cause them to develop into the draftsman or inventive and improvement end of the business.

"What," asked Superintendent Robinson, "does all this mean? To the man, better wages. To us, an immense saving and at the same time greater efficiency and lower cost of production. We still have to take men from the outside and make them 'machinists.' We lose a great deal of time and material in schooling; then they may quit and we lose it all. Generally, however, though the man may become skilled, he does not tend to raise productive efficiency in the broader sense of more perfect machines. All this is loss—loss in prestige; in local, national or international competition; in money; in production. The last means higher prices to consumers." Here he was getting at the creation of a national or local asset such as Germany has created. Philanthropy had entirely disappeared.

Results in Wages to the Boys.

Analyzed on a "profit and loss" basis the showing is interesting. The boys come from the common schools. Reports show that they are sons of clerks, shopkeepers, shoemakers, tailors, chauffeurs, laborers, machinists and other workmen. A boy's earning capacity in Beverly is liberally, estimated at $6 a week, which capitalized on a 5 per cent. a year basis represents a working capital value of $6,000 a year. The wage earning capacity of boys, after two and a half or three years of this public schooling, is $15 to $18 a week. Capitalized on a 5 per cent. basis, this shows the marvelous increase from $6,000 to $15,000 to $18,000 a year working capital.

But the boy here is only on the threshold. Another set of figures is interesting. Professor James M. Dodge, president of the American Society of Mechanical Engineers, in his notable and elaborate formula, finds that the average untrained worker in this country reaches his maximum of earning at twenty-three years of age, the average then being $15 a week. The future of the untrained beyond this becomes precarious. They are in "blind alleys" and "no-thoroughfare" work. Only 5 per cent. rise above the level, 35 per cent. remain in employ, 20 per cent. leave the work of their own accord, and 40 per cent. are dismissed. Here at seventeen and a half years or eighteen, the vocationally educated pupil of the Beverly school has a capitalized value of $15,000 to $18,000 at the beginning of a career which may contribute greatly to the advance of national commerce, while at his maximum the untrained worker has only a capitalization value of $15,000 and he holds back instead of advancing industry. This is the German problem here at home.

Cost of the Schooling.

The average cost of this vocational public schooling is about one hundred dollars a pupil a year. The boy actually earns and gets in productive work in his part-time shop work about four dollars a week, which not only does not take anything out of industry, but pays for his schooling and puts $200 in circulation locally for the half of the $100 that the local community puts up—the state paying the other half of the amount of maintenance falling to public expense.

It is impossible to go into each one of these voactional schools in which local conditions vary the type to an extent. At Quincy, for example, the pupils are in four factories under slightly, different conditions; at Worcester the shopwork is done in the school which has its own equipment and produces a commercial product. At Fitchburg the boys work as indentured apprentices in many plants every other week. All of these "week about" schools, differing widely perhaps as to detail, apply the general principles set out in the description of the Beverly undertaking. All that are successful are on an actual work basis, under direction of men who are workers, not theorists, and taught by skilled workers, not school teachers.

NEW BEDFORD HAS OWN SCHOOL SHOPS

They Were Largely Equipped by Work of Pupils Themselves.

OLD FACTORY WAS USED

As Boys Learned Various Trades They Converted It Into a Thorough-going Shop at Little Expense.

[By E. I. Lewis, Staff Correspondent of The Indianapolis News]

NEW BEDFORD, Mass., April 28.—The New Bedford Industrial school presents another phase of this state's experimentation in education of people for the work of life. There is in connection with this public school a department for the education of girls in millinery, dress making and cooking more on a home vocation than an industrial basis. Essentially, however, the New Bedford Industrial school is a vocational school for boys. It takes the boy at fourteen years, who is not getting what he wants or likes in the ordinary school. He goes to this school the same as he would to the other public school, but the "cultural" line of education is cut down to below 50 per cent. and is wholly applied to his chosen industry. The real bent of the work is to train the boy to become (1) a machinist, (2) a woodworker, (3) a steam engineer, or (4) an electrician. When he gets through this school he is not only theoretically prepared to take up such work by entering a shop as an apprentice, but is, instead, supposed to be practically in possession of the trade and ready to go into a real job as a full-fledged workman, or very nearly that.

School Has Its Own Shops.

This kind of vocational school for boys differers from the other group, of which Beverly was described as a type, inasmuch as here the boy is continuously in the school plant, whereas in the Beverly type of schools he is in an actual manufacturing or industrial plant one week or one day and in the vocational school building itself the alternating week or day, on closely conected up school work. The New Bedford type of vocational school, however, has its own shops. At least half the time and often more than that, is spent in the school's shops or "factories" in overalls, working on real commercial work.

For example, New Bedford has built a very costly high school building. The steam engineering students have been at work on the installation of the heating and power plant, and the electrical students have been installing lighting and other equipment. The cabinet maker students and the carpenter students have been making various equipment for school buildings, while machinist students also have made machines for actual school use and also build machines and do work for local firms on a contract basis. The electricians and steam engineer students also keep the industrial, or vocational, school lighted and heated and the power going for both the day and night classes.

"Ring In" and "Ring Out."

The work in these "shops" seems to be organized and handled on an actual business basis, and the last months of the course of two to four years work is done with something approaching commercial speed. The pupils "ring in" and "ring out," the same as factory operatives, by using the ordinary registering automatic clock system. Overalls are used, and there is the same "washing up" that one would encounter in "real industry." Of course, it is really not a machine factory, a wood working plant, an electrician's plant or a real "steam job," but there is a more or less close approximation.

Generally speaking, the boys spend half the day in these shops and the other half day in the schoolrooms under the same roof. These schoolrooms are not much like those of the ordinary school, or even like manual training schoolrooms. They look more like draftsmen's quarters. In them, the boys who, for example, are at work in the morning in the machine shops, are making their drawings or blue prints, or are applying theory to the work they are doing in the shop in the alternate period. The cabinet makers and carpenters are likewise making their drawings or studying current problems or improvements in the work they are actually doing under as nearly real commercial conditions as possible. The electrical pupils, for example, make their drawings and work out the plans and specifications of their work, and then translate their own thoughts into actual construction, or in such work as wiring. They have done an exceptionlly creditable lot of wiring in the vocational school building.

Boys Reorganized Monthly.

Also, in the operation of the electrical plant and in shop work, the boys are so reorganized monthly that the best one of the students is the fully responsible chief engineer, the next best are assistants and under them come the six foremen in different groups. In the two or three years' course the ordinary student ought to fill about every kind of position, as well as actually do all the various kinds of fundamental electrical work in and out of the shop, on about everything from designing a call bell system running up to sixteen bells and then installing it, to working out certain telephone installations.

In all of these classes in the schoolrooms there is teaching of English, but it is based on the actual lingo and history of the trade; there is teaching of mathematics, but it is the mathematics that applies to the job and the trade; there is teaching of history, geography and general cultural subjects, but likewise all this is taught through and as a part of the trade that the boy has selected. In short, there is about everything here that makes the difference between maunal and theoretical industrial training on one side, and real vocational education which lands a young man far inside the portals of a job.

Defect In This Kind of School.

There is a defect in this kind of a public school which will be pointed out in some detail later, but, briefly stated, it is this: In Massachusetts there are 270 industries—about the same number as in Indiana—and in this school and practically all other vocational educational schools in this country, only five or six of the industries are taught. In short, if the present undeveloped vocational system were imposed all over the country there would, in a few years, be such a flood of student carpenters, machinists, electricians, steam engineers, metal workers, printers, etc., as possibly to affect seriously the economic balance. This might be detrimental even though the education might produce young men who, being more thoroughly and generally educated, would be capable of raising the efficiency of these industries. On the other hand, if vocational education were applied more generally to a wider range of the 270 industries, the effect would probably be highly beneficial to all industry, and to the wage earners.

Differing materially from schools of the Beverly type, which keep the boys in wage earning industry every other week, vocational schools of the New Bedford type keep them out of wage earning industry entirely during their schooling, except when occasionally the school contracts to build certain machines or do commercial work.

Reduction of Actual Cost.

Because of real productive work performed for the public school board or sold, the real cost of such a school is not so high as it would at first seem. This is the interesting side for Indiana, right now, of the New Bedford type of school. But first, it is well to state more fully the wider scope of the school. At this time about one hundred boys and forty girls are in its day school. But when the day's work is done this school plant's efficiency has just begun. The day school is for the boys and girls who are really from fourteen to sixteen or eighteen years old. There are, however, boys and girls above sixteen, and men and women, in the grind of real industry, who need greater training in their work, or who desire to step from it to a closely allied industry.

For example, of the latter, a structural iron worker might desire to gain an insight into draftsmanship, or a machinist might desire to develop into a tool cutter. In the other class, a machinist working on a lathe might want to equip himself to do milling work. This school is open and run at night as a public free school for such men and women in trade who are ambitious, or for women who, in trade, have matrimonial or other homemaking prospects or needs and who can come to this school and take a home-making course in all the home arts from making and trimming their own hats to cooking.

Night School Classes.

Over nine hundred men and women moved by trade and home needs or ambitions, attend these night school classes in New Bedford, which is now a city of 100,000 people—the first or second city in point of textile spindles in this country. The central plant is too small to meet the great demands of the ambitions. "Branch" classes are held at various points.

When its combined day and night work is considered the New Bedford public industrial school is a large institution. The budget or appropriation for this work for the coming year is $48,000, which is to cover all expenses from quarters and teachers to materials and normal addition of equipment. It will be supplemented by the trade sales of product, and, on the other side, the state will repay half the real "maintenance bill" and this will reduce New Bedford's actual bill probably to $25,000. This would be still furtner reduced if cash credit were given for work and product which the school furnishes to or manufactures for the general school plant. Figured on the basis of day pupils alone, the special training may be expensive, but this is not all the work. Also it is well to note the fact that in such a school each pupil is an individual, handled as a separate problem, working on his own and not class work, and is advanced as he, not all his associates, moves.

Of Great Interest to Indiana.

Finally, the New Bedford public industrial school building itself is of great interest to those who are approaching the

handling of the problem of vocational education in Indiana. The school building is in an old, practically deserted wagon factory. The building is rented at $3,000 a year. When it was first occupied four years ago there was nothing in it except a central line shaft. The school began on that basis.

The boys have built as they studied their trades. The carpenters and joiners, in their wood working studies, have partitioned the great spaces up into rooms; the electrical students have wired and lighted the school; the machinists and steam engineers have provided for its steam heating; the machinists have built some of its mechanical equipment, and the domestic arts girls have had something to do, too, in making it a real industrial school. It is asserted that the total cost of the whole plant, represented in raw materials converted into real school plant, is $26,000.

Here the boys have had real construction and have virtually built, heated and lighted their own industrial home. It stands for something to them. To be sure some of it is crude, and it does not look like a public school—neither does the "ringing in" and "ringing out" factory clock; but there are at least some who think that there is in such a pupil built school as this a great deal more than partial solution of the great question of financing vocational education.

WHY CHILDREN PREFER WORK.

Helen M. Todd, in a remarkable article under the above title, published in McClure's Magazine (April, 1913), goes into a broad analysis of the defects of the public school system. She gives answers that many of the children gave her why they preferred to be in industry instead of school. While the answers give the reason for preference, they do not aim directly at the economic necessity or excuse, in most cases. Here are the reasons given:

"You never understands what they teils you in a school, and you can learn right off to do things in a factory." "They ain't always pickin' on you because you don't know things in a factory." "You can't never do t'ings right in school." "The boss he never hits yer, er slaps yer face, er pulls yer ears, er makes yer stay in at recess." "It's so hard to learn.' "I don't like to learn." "I couldn't learn." "The children don't holler at ye and call ye a Christ-killer in a factory." "They don't call ye a Dago." "They're good to you at home when you earn money." "Youse can eat sittin' down, when youse work." "You can go to the nickel show." "You don't have to work so hard at night when you get home." "Yer folks don't hit ye so much." "You can buy shoes for the baby." "You can give your mother yer pay envelop." "What ye learn in school ain't no good. Ye git paid just as much in the factory if ye never was there. Our boss he never went to school." "That boy can't speak English, and he gets $6. I only get $4, and I've been through the sixth grade." "When my brother is fourteen, I'm going to get him a job here. Then, my mother says, we'll take the baby out of the 'Sylum for the Half Orphans." "School ain't no good. When you works a whole month at school the teacher she gives you a card to take home, that says how you ain't any good. And yer folks hollers on yer an' hits yer." "Oncet I worked in a night school in the Settlement, an' in the day school too. Gee, I humped myself. I got three cards with 'excellent' on 'em. An' they never did me no good. My mother she kept 'em in the Bible, an' they never did her no good, neither. They ain't like a pay envelope." "School ain't no good. The Holy Father he can send ye to hell, and the boss can take away yer job er raise yer pay. The teacher she can't do nothing."

MODEL HOME AMID SLUMS OF BOSTON

One of the Many Means by Which Practical Education Is Carried On.

VOCATIONAL SCHOOL VARIETY

Instruction for Adults as Well as Young People, Aiding Workers Toward Advancement.

[By E. I. Lewis, Staff Correspondent of The Indianapolis News]

BOSTON, April 29.—Boston—all Massachusetts—is little short of a great laboratory of experimentation in vocational education. The variety in the details of conducting the schools is too great for anything like a complete review of them.

For example, under the state aid law, similar in some respects to the new Indiana vocational education law's provisions for state aid, a model home has been opened in the candy workers' section of Boston. It is a four-room affair, furnished cheaply, but in good taste and durability, to which classes of girls come from the big candy factories. The classes are groups of ten girls, and the course extends over thirty weeks, the girls coming twice a week for two-hour sessions, the employers giving them the time off work without deduction in pay.

Setting of the Model Home.

The model home is within easy stone's throw of famous old North church, in whose belfry was hung the signal light which sent Paul Revere, awaiting the signal over in Charleston, speeding up through every Middlesex village and town, calling the minute men out. If Paul were to return to Boston and stroll up the old church hill he would wonder what all the jargon of uttered sounds meant. Twenty thousand Italians are colonized in close quarters around the old church, and perhaps another five thousand orthodox Jews are mixed in with them, or within a quarter of a mile of the old church. Down into this Little Italy and Warsaw Ghetto has been dropped the little four-room apartment, behind whose windows bristle white curtains. Inside, the girls are taught, in their little groups of ten, American home methods and ideals.

The whole house is furnished and all the work inside, from cooking to general housework, is organized on the basis of the home of a husband who is getting $15 a week. As a rule, the girls who come to it are expecting to marry very soon, and, as a rule, they marry $15 men. Among other things, the thirty weeks' course impresses on them the fact that before they marry the couple must save up enough money to buy the furniture and full house equipment, if they are really to have a home.

In this little home the furniture is of the plain best mission type; the walls are papered in good taste; cheap but well chosen pictures are properly placed, and the simplest little curtains impressively show the attractiveness of cleanliness. There are good, inexpensive table china and glassware and "real silver" knives, forks and spoons. The kitchen is modern, even to an inexpensive but substantial cabinet and a good, durable work table; and likewise is the bedroom sensibly fitted up.

Everything is "homey" and wonderfully simple and clean, and perhaps it is the first time such girls have ever come into a house that was in order, was not chock full of red plush furniture, bric-a-brac and litter, and is really New England in its primness. All the testimony, and the way the girls come to it in "continuation classes," twice a week, indicates that it makes a tremendous impression.

The "real silver knives, forks and spoons!" Oh, how they wish they could have "real silver knives, forks and spoons" when they marry; and how wonderfully delighted they are when they find that if they will just quit going to the moving picture show every night they can save up enough to have them, for they cost only $5! And the plain white curtains! It is pitiful the way some of them pat the bed and take to the cooking. Such "model home" public schools are to be opened in mill centers. So goes vocational education in Massachusetts in one of its many phases.

Out of Industrial "Blind Alleys."

Twice a week the errand, stock and cash boys and girls, in squads, troop out of Boston stores on two hours of the employers' time, to take "continuation work," which is aimed to open up the blind alley they are in industrially. This term, "blind alley job," must have been coined down here. It really means something in this big city, whose curving, higgledy-piggledy streets follow the old cowpaths and other original lanes and shortcuts. A stranger, hurrying, starts in what seems to be a rather pretentious thoroughfare, and soon he finds that it ends in a lot of jagged angles, none of which has an outlet. The hurrying stranger has to go way back to where he entered and make a new start to get anywhere. He has been in a blind alley.

That is exactly the predicament of the children before coming to the continuation school. Unguided, but tired to death of the old school, or forced out of it by economic pressure, they have fallen into one of life's blind alleys. The great effort now is to get them out of it, or find them a wall they can climb over—and boost them over it. So long as they stay in the "blind alley" they are going to work for children's wages. They are getting from $3.50 to $5.50 a week—and there is not much left for their work when their car fare and meager lunches come out of it. Already some are getting along sixteen, seventeen or eighteen years of age. So, by the grace of their employers, they are coming to a public school that is training them for promotion—for places in the office or positions as salesmen and saleswomen. They come for four hours a week for thirty weeks, and it is wonderful how they take up applied arithmetic, reading, writing, commercial geography, spelling, hygiene, physics and those arts of salesmanship which run from meeting a customer properly to turning the mind of that possible customer in favor of the store. And when they have mounted this blind alley wall, or get out, they may seek further development by the same processes in other classes which are aimed to make a salesman or saleswoman capable of better positions—direction, buying, etc.

Continuation Schools.

It is impossible in a limited space to tell fully of this highly interesting work. Only types can be given. Young men from the wholesale shoe and leather houses—many of them college graduates, by the way—likewise go to the continuation schools for two-hour classes twice a week, and

there study leather from the raising of the cattle in different parts of the world, through the slaughtering, marketing, tanning and other processes into shoes, and equip themselves with searching knowledge of different kinds and qualities of leather and shoes. Trips are made by these classes to the slaughter houses, the tanneries, the leather houses and the shoe factories, first to those turning out three thousand pairs of shoes a day and then to a larger plant, turning out fifteen thousand pairs a day.

These men are fitting themselves for better and higher service, or for business for themselves. The courses in salesmanship, banking, the clothing trade, dry goods and other mercantile and clerical lines are commercially thorough.

An interesting "night continuation school" is run in the afternoon. Cooks, waiters and others around hotels and other public places who can not speak English come to this continuation school twice a week. The school also teaches Spanish and Italian for commercial and industrial purposes to Americans.

One of the departments of this public schooling now being organized is for girls of ten years or over, who must bring a baby sister or brother with them. It is found that the foreigners turn the infants over to little daughters to care for them, and this school is to teach them how to care for them properly, and to take the high presssure call off the little white hearse.

This public "continuation school" operating in the daytime in Boston, helping boys and girls out of blind alleys and helping others to greater efficiency, is now patronized by about one thousand people, who are taking the full courses and are working hard at them. Others have to drop out to make room for the really ambitious.

Night Vocational Schools.

Then there are the night public vocational schools in Boston and all over Massachusetts, where people in the trades in the daytime can come and take courses of study as outlined in the description of the New Bedford public industrial school. They give night school courses in which machinists, for example, can learn to operate another kind of machine, or can study to become a toolmaker; in which janitors, for example, raise into positions of licensed firemen and firemen into licensed engineers. Such courses are provided for practically all the fundamental arts. Metal workers, structural iron workers, carpenters, etc., can learn draftsmanship, or plan making, and the blue-print reading art. It is proposed to open development schools of this kind for teamsters.

In night schools women in industry may learn other kindred machines or allied trades or arts; and women of all kinds can take courses in household arts for home purposes.

Then, on top of all this vocational, higher efficiency and good citizenship work carried on at public expense, often utilizing the day vocational school equipment, the mechanical arts schools, and the domestic arts equipment of public schools, is the great superstructure of day and night work by private societies. Some of it is very great and reaches not hundreds, but really thousands of people in the state. Still on top of this is the great vocational work of the commercial schools which, in day and night sessions, turn out bookkeepers, stenographers, typists, etc. Actual needs of education are beginning to be met here.

Age Lines Are Broken Down.

The impressive thing is that in practically all Massachusetts towns and cities now, any one can pursue practically any vocational, home-making or citizen-making line of study. Another impressive thing is that while Massachusetts is evidently seeing that there is another education than that of the old line "cultural" type, which so many boys and girls reject or can not afford, it is also tearing down the age limitations. In these great experiments everybody, at least up to forty years of age, is a child in the eyes of the educators in matters wherein he or she needs development. And provision of schooling for people, from the ten-year-old girl who must care for baby to a forty-year-old machinist who wishes to advance, is coming to be regarded as a legitimate charge on society in some form or other.

Massachusetts has a $3,000,000 equipment in free day and night schools for the improvement of the textile industry, and its workers. The upkeep cost is heavy, and the attendance, except in night classes, is not very satisfactory. This has taught Massachusetts, or is teaching her, one great thing. That is, not to make a big outlay on school buildings—a feature emphasized in the articles descriptive of the New Bedford public industrial school, and of the Boston and Manhattan Trade Schools for Girls.

Masachusetts is proceeding likewise in vocational education for boys on the farm. But the vocation agricultural work is another story to be handled separately, for it is of great interest to Indiana.

HIGH WAGES AND CHEAP WAGES.

It has been aptly said that America is little else than a huge stevedore, bearing down to the ships of the sea crude and semi-crude materials for the employment of the capital, labor and intellect of foreign nations. Exportation of these partly manufactured materials is a depletion of our natural resources, the heritage of the ages in mine, forest and soil fertility, never to be restored.

Every bushel of wheat exported carries 27 cents' worth of phosphorus, every bushel of corn 13 cents, and each pound of cotton 3 cents. These figures fairly represent the supposed profits. Today our best agricultural states, even those only fifty years under cultivation, yield only half as much an acre at the thousand-year-old soils of Europe. We have been capitalizing soil values to an extreme and hurtful extent, where we thought we were making real and substantial profits. There were reasons in the past for these exportations of various raw and semi-crude products, and we have, on the whole, splendidly prospered; but those reasons are no longer effective.

Now we must use every effort to send our products abroad ready for consumption, carrying the maximum and not the minimum of American labor and skill. Think of the difference in the amount of labor carried by a typewriter and a bar of iron; a planer and a billet. The exports of England, Germany and France are finished products, mostly labor; most of ours carry only enough labor to make them fit for ships cargo.

Our labor is in many respects the most efficient in the world. We are proud of "our men behind the guns"; their brothers, the men behind the machines in our factories, have no less of ability and courage of accomplishment. There is brains in a typewriter, in a sewing machine, in shoes. These are already exported in volume, and point the way to tens of thousands of other products, which can be made as welcome in foreign markets. These show, too, that high-paid American wages are cheap wages.

H. E. MILES.
Chairman of the Educational Committee of the National Manufacturers' Association.

GETS TO BOYS AND GIRLS OF THE FARM

Indiana's Proposed New Education Has Already Been Tried in Massachusetts.

RESULTS PUT TO SURE TEST

Work of Boys Side by Side With That of Fathers Shows Up One or Other Quickly.

[By E. I. Lewis, Staff Correspondent of The Indianapolis News]

NORTHHAMPTON, Mass., May 2.—The revolt in cultured Massachusetts against exclusively "cultural" education and its leadership of a national movement for a public school system that will impart "applied knowledge," or vocational education, has a very close connection with Indiana's new agricultural policy.

Perhaps it may be news to Indiana farmers that there is new state agricultural policy. It is one of the optional sort—its local adoption resting with localities or communities. It is a fact that the state, by the enactment of the new vocational educational law, does recede from the old policy of providing public free courses of study only to produce "agriculturists." The privilege is now extended to the farming communities to educate their boys to be "farmers," and with the privilege go state funds. In short, the state has opened a way for agricultural communities to give the boys and girls of the farm the kind of education they probably need.

Indiana's New Law.

The new Indiana vocational education law provides that "any school city, town or township may, through its board of school trustees or school commissioners or township trustee, establish vocational schools or departments [in the existing schools] for industrial, agricultural and domestic science education in the same manner as other schools and departments are established," and may maintain them the same as the other schools are maintained, or by a special tax levy. The law also specifically states that these schools shall be of less than college grade—in fact, common schools of special character—and that they are designed to meet the vocational needs of persons over fourteen years of age. In other words, they are for the boys and girls who drop out of school just as soon as the compulsory school attendance age limit is reached. The new idea is to get hold of them then and by a new kind of schooling, continue to educate them, but to educate them as workers.

Elementary and Advanced Teaching.

The new Indiana law goes further in the case of agriculture. It requires that elementary agriculture be taught in the grades. Local advisory boards are pro-

vided for, and there is provision in the state organization for a deputy or "agent" of the state superintendent of public instruction, who is also connected with Purdue university's agricultural extension work, who shall be in supervision of the public school agricultural work. Teachers of such vocational subjects in the schools will have to pass a special examination. Most of them should, it is thought, be farm boys with Purdue agricultural station training. The state will pay two-thirds of the instruction cost in all of these schools teaching agriculture.

The Indiana law goes still further. It provides that "whenever twenty or more residents of a county, who are actively interested in agriculture, shall file a petition for a 'county agent,' together with a deposit of $500 to be used in defraying expenses of such agent"—but in reality as an evidence of good faith—the county council "shall" appropriate annually the sum of $1,500 to be used in paying the salary and other expenses of "said county agent."

County Agents' Duties.

The county board of education "shall then apply to Purdue university for the appointment of a county agent," appointments being for one year. Then the state will, through Purdue university, reimburse the county to the extent of one-half the annual salary of the county agent, the state limiting its half, however, to $1,000. This county agent's duties include "assisting" the county superintendent of schools and the teachers in giving "practical" education in agricultural and domestic science. The "practical" means a great deal. The county agent is also to get in with the farmers, co-operating with them in their institutes, farmers' clubs and other organizations, and it is also to be his duty to conduct practical farm demonstrations, boys' and girls' clubs and contest work and "other movements for the advancement of agriculture and country life": and he is also to give advice to farmers on practical farm problems.

In short, there are provided now ample facilities for any community, or any county, to have an altogether new kind of school or parts of schools, for children over fourteen years of age who want to know their soil and how to grow bigger, better and more corn or anything else; while for the girls there is provided education in house arts and economies. The law in providing an expert adviser for farmers also takes the limit off the school age.

Imported From Massachusetts.

This new Hoosier idea is imported, for the most part, from Massachusetts—in reality, from down here in the Connecticut river valley. Only Indiana is going further in the "county agent" provision. How does this new wrinkle work in Massachusetts? It is a little too soon to answer the question. One thing, however, seems to be pretty thoroughly demonstrated, and it is a result that was not expected. Here the town and city boys are trooping out to the agricultural schools and are getting tremendously interested. Like most people who have not lived in the country and who do not realize that farm work is real work, they seem to be outdoing the country boys in interest in the new country vocational education. They are dead in earnest.

The schools are organized on the "part-time" basis, like the industrial schools previously described. That means that the boy works "on the job" part of the time. In agricultural public schools this really means that the boy is supposed to have a bit of real farm land or live stock placed in his hands at home. Over it he is master. In applying for admittance to these agricultural vocational schools the boy signs his name to a state printed form which concludes with: "I promise to do my best to master and to carry out the teachings of this course in both 'project study' and 'project work.'" But this is not enough. The parent and guardian must sign a form which includes this: "I * * * promise that he shall have sufficient time, land and equipment for his home 'project work' in connection with the course. I promise to the school my support and co-operation, and state that I understand what the course is to be and what the demands on the pupil's time will be." Those pledges have the pupil and his parents or guardian, tied up pretty well.

How the Farm Pupil Works.

The terms "project study" and "project work" mean the pupil's part-time job. It may, for example, be an acre of corn, it may be certain live stock—it is likely both, and some garden, too. The boy has his own land, cows, chickens, or part of the garden. In the agricultural school, especially in the winter, he studies it, applying to the problem all of the sciences possibly touching agriculture. The "English work" may be the reading of good, highly trustworthy, well written and selected farm journals; his mathematics is of the applied kind. He carries at the same time, especially in winter, certain cultural studies, as well as learns how to mend harness and to do farm carpentering, forging and a lot of other things. He spends a half day at real work. When, however, spring approaches he has his "project" mapped out.

Suppose it is corn. It is not raised in any school "plot," and cared for only up to school adjournment. No, it is an acre at home—right up to, or in, his father's corn field. He has worked out his theory, even to plowing, fertilizing and handling. He advises with his teacher—who later assumes another relation—and from cleaning the land, and plowing, planting and fertilizing, through to harvesting and marketing, this is his and not his father's "job" and production.

When he is at home for his work half day, he is not absent from school, provided he is at work on his "project"—and at times he stays the full day, when it is time for plowing and planting. When the regular school year ends the teacher becomes an inspector, riding around on his motorcycle. He has, already, taken a three months' vacation in the dull winter months, after harvest. He carries the boy and study through the production year.

And Here Comes the Acid Test.

When one gets down to vocational education, here is the acid test. The "old man" with his old methods has corn right alongside the boy's corn, and fathers do not like to be beaten at their own game. If the boy does beat him out, lo, there is an awakening—and sometimes the "old man" looks up the expert and wants advice that he formerly scorned. If, however, the boy, after having probably figured out more expensive fertilization and handling does not show results, vocational education and all this new theory of agriculture and making two blades grow where one grew before, gets a tremendous setback. If the old methods all through the community beat out the new school's ideas, the new school must close up shop, not because support would be withdrawn, but because the boy is looking for results and would drop out.

This has not happened in Massachusetts. The boys have been bringing a new light to the old home. It has only been two years since this new agricultural vocational education began. Not a school has closed, and this year they jumped from five to seventeen. Of course, there are failures. It is strange just how sometimes the "boy" breaks out and spoils a good start, and sometimes, of course, pest and other unforeseen calamity comes, notwithstanding sprays. But the boys are so far ahead of the "old man" that the schools increase in numbers and greatly in attendance and the old people want to come to evening classes in some instances.

Land for the City Boy.

But the city or town boy does not have the land. When he insists on going to the agricultural vocational school, land or live stock is obtained for him in some instances, but if this is not possible he works on the school farm and then he must "hire out" to some progressive farmer or stock raiser and do actual work—for pay and in competition with others. He is graded on the reports on that work. The town and city boys are "making good" and while the new agricultural educational system seems to be educating farm boys to stay on the farm as farmers—showing them that it can be made to pay better than a job in town—there seems to be starting a real "back to the soil" movement.

Since "cultured Massachusetts" has laid profane hands on "cultural education" it is raising trouble all along the line with it. These boys have to keep accurate daily accounts of time and make reports, and when one of them—especially a city boy—gets with a good farmer, gardener, stock man or chicken raiser, and is learning his trade to great advantage there, he is left in that position. But his education is carried on by a correspondence method, in which "his own work" is the matter in hand. He gets credits for his work just as if he were in school, and when his course is up he comes in and participates in the commencement exercises and gets his sheepskin. Only today one such case was encountered, in which the boy is in Illinois.

Will Be Shown Up Quickly.

There is no place where vocational education can be so tested out as to put the test right up beside father's corn field or potato patch; or in handling cows, chickens or anything else right beside him. The old order or the new is going to be shown up very quickly. It is a challenge from the boy who is not liking the farm as it is now, and who thinks it might be made better by changing the whole old order of things. It is more than that. Whenever we get down to this basis in Indiana, Purdue university, as an agricultural station, is either going to be "shown up" or is going to show the state that it is worthy of large tax support.

There is, too, a final word. Do many stop to figure how, constantly, our nation is impoverished when that which is produced—straw, for example, carted off to paper mills, and nitrates and other vital ingredients in grain shipped abroad—is not returned in some form to the soil of this nation? There is a greater economy than that of simply your farm and my farm. It is the national economy of soil, and concerning that vital thing the present school system is entirely silent even while it teaches the farm boys and girls Latin.

Greater Than War.

"We have conquered upon the field of battle in war; we are now conquering upon the field of battle in commerce and industry." E. G. Cooley, in his exhaustive report of "Vocational Education in Europe," takes this simple statement of —then—Crown Prince Friederich, which was made on the day after the signing of the treaty of Frankfort, closing the Franco-Prussian war, as the key to the secret of Germany's wonderful success. There is a greater battle field than that of war, and Friedrich, with the great Bismarck behind him, pointed to it. Success on that battle field has been without shot or shell, but gained with workers at home who are trained for efficiency in production. It is the steady advance over this battle field that has placed modern Germany among the foremost nations of history.

VOCATIONAL IDEA IS BESET WITH DANGER

Costly System May Be Made Worthless by "Schoolmaster Guild" Domination.

SO SAY MEN OF EXPERIENCE

Trade Teaching Must Be Under Different Sort of Direction and Type of Teachers, They Assert.

[By E. I. Lewis, Staff Correspondent of The Indianapolis News]

BOSTON, May 3.—Vocational education is, in one sense, the most dangerous new educational proposal that has come up in this country. None realize it so well as its advocates. None see so clearly what a fearfully costly fizzle it can easily be made as those who grasp its great possibilities for good.

This series of articles, in which an effort is made to give a general survey of the vocational education movement, now of particular interest to Indiana, has apparently been drawn almost wholly from Massachusetts experiences and experiments. This is not the fact. Educators in other states—Illinois, Ohio, Pennsylvania, New Jersey, New York and Connecticut—have been interviewed and vocational schools in those states also have been visited. Massachusetts schools have only been used to illustrate types and general methods—(1) because they were the last visited; (2) because Massachusetts has been at work on the vocational education problem longest—seven years—and has developed all the various types of schools, and (3) because in its work it has developed both the best theories and shown where lie the greatest possibilities of defects in the whole American vocational theory.

The Williamson Trade School for Boys at Williamson, Pa.; the Philadelphia, Chicago, New York, Albany, York and other noted vocational day or night school experiments, such as those in Wisconsin, could have been reviewed in detail, and scores of Massachusetts vocational schools, each varying somewhat, could likewise have been described in detail. The effort, however, has been to present good types, and to dwell on the applied theory rather than the numbers affected.

Possibility of a Great Failure.

Likewise, in pointing out the dangers that beset this new educational proposal, conclusions or statements of fact are drawn from the wide field and from men in several states who are leading in the national educational and vocational education work and movement. The most generally feared danger lies in the fact that the "old line" school teacher guild insists that no one but a school teacher can teach anything. Germany, Massachusetts and the United States, as a whole, offer striking proof that if the vocational education is turned over to the present school teacher guild another great educational failure will be registered.

The term "another great educational failure" is used advisedly. Unless such educators as Charles A. Prosser, now secretary of the National Society for the Promotion of Industrial Education; E. G. Cooley, formerly superintendent of the Chicago schools; David Snedden, commissioner of education in Massachusetts, and C. R. Allen, present director of vocational education in Massachusetts, are incorrect in their history, manual training was first proposed as a practical, vocational education. When the "school master" got through with manual training it became what it is now, a part of that "cultural education" machinery which does not meet the demands of a very large element.

As to Manual Training.

It is expected that this statement that manual training has been a failure will raise up challengers. None of these men who are named, and others equally well known who could be quoted, would class manual training as a "failure." They think it has its place in education of the cultural type and is immensely valuable, but as a vocational educational measure it has been as notable a failure as was that of Columbus, who failed to find a new route to India, although his discovery was certainly not without value. Snedden, in his published works, is on record as stating that "the vocational aim of manual training is now frankly repudiated."

The demand for vocational education is, in itself, an indictment of the present educational managers and their system, charging them and it with failure to give every child an education. Is the charge true or not true? Every child, if its parents are able, can freely have a really good education—of its kind. Still, over eight million boys and girls, between the ages of fourteen and eighteen, are out of the schools. More than 70 per cent. of them did not finish the elementary school, 75 per cent. did not reach the eighth grade and almost 50 per cent. did not complete the fifth grade. Then comes the fact that not one child in thirty in this country can, or does, take that measure of freely offered cultural education represented by a high school diploma. The charge is made that the whole system of tax-supported education is built up on the theory that everybody is going to live the life and have the needs that 90 per cent. of the people at this time do not live or do not think they need. Manual training has been added to this system of education which is built down from the university which produces professional classes, rather than up from the needs of the people under present conditions.

Schoolmaster Guild's Claims.

The great question now is this: Are the people who have been dominating and monopolizing the educational system going to take over vocational education and merge it, as manual training has been merged, into the "cultural" education system? In Indiana, and elsewhere, this class deeply resents any encroachment on its control, on the part of the laymen or any one else. In Indiana, however, in the enactment of the new vocational education law, a notable break was made in the lineup. The state board of education was reorganized, and for the first time the layman got in. It is true that of the thirteen memberships the "schoolmaster guild" is given ten places, but the new law does provide for three members "actively interested in, and of known sympathy with, vocational education, one of whom shall be a representative of employes and one of employers." A fight was put up against any such "intrusion of the layman" as this little representation.

The new Indiana vocational education law also provides for a local "advisory committee composed of members representing local trades, industries and occupations" to "counsel with and advise" the local school boards and school officers where vocational schools are established, but these "advisory boards" are to be created "under a scheme to be approved by the state board of education" whose composition has already been noted.

Case of Tail Wagging the Dog.

This was a very great "victory," but it falls far short of meeting the views of the more advanced type of modernists such as E. G. Cooley, of Chicago, who looks on the concession of a possible three places on a controlling board of thirteen with only "advisory" local laymen, as being a case of the tail trying to wag the dog. There is a real demand for a representative school control—one that will squarely face new conditions, and not hold on to old theories and customs. The highly successful Germans have established, almost universally, local committees of business men, manufacturers and workmen, who control these schools.

The grave fear here in Massachusetts, and for Indiana, is that the "schoolmaster guild" may get hold of and control vocational education, and duplicate the history of manual training, only in this instance, having the greater opportunity, it may make the whole thing more costly and less beneficial.

"To my mind," said Charles A. Prosser when discussing the new Indiana vocational education law in the offices of the National Society for the Promotion of Industrial Education, recently, "the new Indiana law is the best vocational education legislation yet enacted in this country, but more than the best law is necessary." That afternoon, lecturing to advanced students and professors at Columbia university, he made plain what he had in mind. He was speaking broadly—not of Indiana or any one state: "If we leave this to the tender mercies of schoolmasters, superintendents and boards of education, it will be a frost." He pointed out that Massachusetts would not have got far had not the break come with the old education board which did not keep step with changing times. As a result a new state board was created with lay as well as professional representatives. He told of the general disposition of school men to capture, and their determination to run vocational education, and to resent "outside intrusion." Then he referred to the original failure of handling manual training and gave the warning: "If they make a failure of this—and it will be a failure in five years if it is handled from the old-idea point of view—the schoolmasters can certainly expect separate boards of control." And he pointed out that the guild would lose prestige seriously.

Prosser on the Indiana Law.

Referring to Indiana specifically in his office interview Mr. Prosser, pointed out the one thing that, more than all else in the Indiana law, is to determine whether or not vocational education is to have a show for success there. The new law provides that "the state superintendent of public instruction, with the advice and approval of the state board of education" (as reorganized) "shall appoint a deputy superintendent in charge of industrial and domestic education"; and in co-operation with Purdue university, the state superintendent shall appoint a supervising agent in agricultural education. On the wise selection of capable men, having the practical, broad, new-idea view, and on the freedom or restrictions imposed on them by the dominating "schoolmaster" influ-

ences depends, in Mr. Prosser's opinion, the success or failure of vocational education in Indiana.

Those who have followed the reviews of the different types of industrial and agricultural schools must have been impressed with the fact that if it is to be vocational education the teachers must primarily come from the industry and not the schoolroom. They can not be, in the industrial schools, of the type of manual training teachers of whom Mr. Cooley refers when he tells how, when superintendent of the Chicago schools, he had to send out their saws to be sharpened because they did not know how to sharpen their tools; nor of the type of agriculturist who had to have his class plowing done because he did not know how.

A Typical Pedagogical Notion.

The direction can not fall into the hands of that class typified by a very well known western educator who recently came to those in charge of the Massachusetts vocational education work to lay before them his bright new plan of teaching vocational education in his state—a plan which he proposes to put into effect. He had discovered, by deep pedagogical thinking, that the 120 complicated machines used in making a pair of shoes have just one great principle in common. It is "a rotary part." He rightly advanced the theory that the most perfect adaptation of rotation to industry is in the wood turner. He therefore proposed—and proposes—to equip his schools with wood-turning machines and thus turn out workers equipped to go into the shoe trade.

The individual teacher in manual training must have the trade first. He must come from the industry and know it, and then take on the art of teaching it. Massachusetts has a public night school, training such foremen to teach. In vocational education the boys and girls are aiming directly at a "job," and no school teacher with a superficial theory of the job or of the machines can command the respect of the boy or girl who wants efficiency to get a job. In this new field of education the question is "Can you do it?" not "What do you think about it?" Most of the new field is in the "man's" world, whereas the "vocationalists" note the dominating feminine influence in the present school system—and attribute the boys' disposition to get out, in large measure to that fact.

Danger of Waste in Buildings.

Another danger is the tendency to want fine buildings, with a surplus of equipment. If this extreme is followed, the public school plants being taken as standards, vocational education will go bankrupt in a hurry. The articles published have shown that abandoned factories and city schoolhouses, and city buildings in low rent districts, make fine vocational educational plants and present certain advantages. In the country the abandoned schoolhouses could be used for agricultural schools when separate buildings are needed.

These are only a few of the dangers lying in wait for vocational education. But they are well worth bearing in mind when the matter is taken up.

A GREAT NATIONAL ASSET.

The presence in any society of a relatively large proportion of skilful and intelligent workers and directors of these workers constitutes a national asset; and any country permitting a large proportion of its youth to grow to maturity untrained as regards skill and as reguards habits of industry, is thereby impairing the quality of its national endowment.—David Snedden, Commissionher of Education for Massachusetts.

SOME VOCATIONAL SCHOOL FAILURES

Great Sums Spent on Institutions That Produced Little Effect on Industry.

FAULTS IN THEIR PLANNING

Failures in Some States and Under Same Laws by Which Notable Successes Have Been Achieved.

[By E. I. Lewis, Staff Correspondent of The Indianapolis News]

SPRINGFIELD, Mass., May 6.—There is a strong and natural inclination on the part of most propagandists to bestow praise liberally on their proposal and to shut their eyes to failures. In all the scores of pamphlets and books on vocational education that have been used as handbooks in investigating the vocational education problem, no reference has been observed to several notable flunks. Still these failures should be red danger signals to Indiana, the latest state to commit itself to vocational education.

For example: Massachusetts has two great dominating industries—textile and shoe manufacture. It is almost the national center of these industries. Massachusetts was the first state to commit itself to vocational education. It has had state aid and state standards for vocational education for seven years. Still these great industries have not been touched. Back as far as 1895 Massachusetts recognized the commanding importance of the textile industry—cotton and wool—and began the establishment and maintenance of textile schools. Three big schools, located at New Bedford, Lowell and Fall River, represent with equipment an investment of over $3,000,000, and the annual appropriations are so big that a state protest has gone up.

Costly School Buildings.

The school buildings are great stone and brick structures—the one at Lowell looks as big and imposing as a castle on the Rhine. The equipment of the schools is marvelous—cost great fortunes—and in every respect the schools are wonderful, except that they have no students to speak of and are having no effect on the industry. To say that they are wholly negative would be to overlook the fact that, operating as night schools, they do draw a great many textile workers, but a recent report of a special state investigating committee seems to leave no doubt that they are a tremendous failure as real day schools.

If there is one justification above all others for vocational education at public expense it is that it will return what Germany has got—a national or local efficiency which means better, cheaper and more skilled production which benefits not only the worker but enriches the locality or nation. The textile schools have not delivered the goods.

Fault of Manufacturers.

In this instance the fault seems to lie with the manufacturers, who are said to be more interested in obtaining tariffs at Washington than in solving problems of efficiency; and in gathering in great hordes of southern Europeans and paying them small wages, than participating in developing, as Germany, Switzerland, England and other countries have done, a highly educated, efficient, national industry—a fact made the more grievous because the tariff levied is in the name of "the American workingman."

In the state investigation, just closed, letters were sent out to manufacturers, asking for information. One-half of those addressed replied, and this half, representing probably 60 per cent. of the production, showed that the amazing total of only eighty-five men trained in the textile schools and employed by them. Other investigations reveal that the industry is carried on (though the nation is taxed to pay "American wages") on such a low wage scale that on an average the entire body of workers changes every six years, and most of them are unskilled foreigners.

Labor and Capital Must Be Interested.

Though Governor Douglas, a noted shoe manufacturer, was responsible for the general vocational legislation, seven years ago, there has been complete failure to touch the shoe industry. There the fault lies with the local labor unions, though organized labor, as represented by the A. F. of L., is one of the sponsors of the national movement for vocational education.

These two notable failures should not be ignored. They point out to Indiana the fact that both the employing and employed class must be interested and join in any scheme or specific undertaking of vocational education to make it effective. In fact, the best example of effective vocational education is in the Beverly-Quincy type described at length, in which the industry is calling for and trying to develop great efficiency.

The textile failure points to another defect. These great textile schools were established to develop superiors of various sorts—not the average worker. The aim now in vocational schools is to raise industry, as well as citizenship, by educating at public expense the ordinary worker, and then making it possible for him later to advance.

An Ohio City's Failure.

Another failure is registered by a great Ohio city. To single it out by name would excite local pride controversy. The fact generally recognized from Chicago to Boston, however, is that it has made a great fizzle of vocational education, while Cincinnati, working under the same law, has made a success. The reason was that the "schoolmaster" crowd got in control, made vocational education "cultural," and the boys and girls who had dropped out of the public schools because they were not getting what they and their parents wanted, were not fooled. You can't fool a boy who has his mind made up to learn a trade, nor a girl who, under economic pressure, is headed for a job. If they can't get it through the school they go direct into the "blind alley job."

Pseudo-vocational education is the worst kind of failure, and a very expensive one, too. On the other hand, the right kind should—as in the case of some European countries—pay tremendously in national wealth and personal contentment. Professor Carver, of Harvard, the other day recalled the fact that "the most valuable natural resources are our people, and that we are wasting people more than we are wasting anything else." They do

not wish to be wasted—these boys and girls, as the Massachusetts vocational schools show, but they can't be fooled by rigging up the old education in new toggery. They want "the goods" taught by people who know the thing as it is actually, not theoretically, done, and they want it directly applied.

For Those of Working Age.

Vocational education leads always to the borders of the great subjects of economics and politics—the latter used in its broad sense. It is impossible always to follow where it leads, but in closing this series of articles it is well to pay attention to one thing—the protest that vocational education is opposed to liberal education and is not democratic inasmuch as it creates a "laboring class." Except for the manual training and other pre-vocational exercises and studies, in the grades, vocational education, as now spoken of, does not begin until the boy or girl is fourteen years of age and is, generally, free to go out of school—and so often does go out. It is aimed to make him or her a skilled or useful worker instead of a "blind alley job" child. Already the child should have acquired during the compulsory schooling years, some general liberal education, but in all of the vocational courses that have been examined, there has been found a continuation of academic education in forms closely applied to the trade or industry.

Everywhere, though the tendency now is to increase the amount of time given to the pursuit of definite industrial training, great stress is being laid, as in Germany, on making the child a "good citizen"—a man, or woman, as well as a worker.

Meaning of Efficiency Taught.

Even the little girls in the Boston and Manhattan trade schools are shown how bad a thing it is for industry—men and women workers and production—for girls to quit school before they have finished their training and accept work at very low wages. At the same time they are shown and it is the thing that keeps them in school—that work for higher efficiency and better understanding of the manifold sides of industry means a big final improvement in wages, not only for themselves but for the benefit of all. These children are taught, in all these courses, practical sanitation; instructed in the rights of workers and their obligations to society and their fellow-workers; and it has been shown how they are instructed not only how to make better wages, but also how to keep homes and children and perform those other services which go to make up not only an efficient, but an enlightened, worker.

It is a simple, yet typical declaration, this first paragraph of the Philadelphia public vocational schools' outline of work: "The purpose of the trade schools is to develop intelligent workingmen and promote good citizenship."

Effect on Citizenship.

Side by side with this may be placed this excerpt from C. A. Prosser's "Practical Arts and Vocational Guidance":

> "Since they must work somewhere, most of these children [those who drop out of school] find their way, largely by accident, into low-grade skilled or unskilled occupations—the great child employing industries and enterprises which are always wide open at the bottom, but closed at the top, so far as permanent, desirable employment is concerned. Here, because their work lacks purpose and hope, they drift about from one position to another, changing in some states, it is said, from one unskilled position to another on an average once every four months. The resulting moral degradation to the child and the tremendous cost to the employer can not be estimated. * * * They find themselves at sixteen in the same position as at fourteen—starting life without any adequate preparation for wage earning. Their menial, monotonous, more or less automatic work not only gives no skill, but also arrests rather than develops intelligence and ambition. Out of the great army of children who leave the schools at fourteen to go to work and get from those schools no further attention, come the ne'er do-well, the loafer, the tramps, gamblers, prostitutes and criminals, for whose care the state spends more money in penal and correctional work than it would have cost to have prevented them from becoming a burden and menace to society."

There is the picture. It may be overdrawn. In Chicago the other day three hundred unemployed men laid bare their souls, competing for a $1 bill, in briefly answering this question: "What are the real causes of loneliness and lack of employment?" Conspicuous in the answers was the often repeated assertion included in the winner's summary. "2. Incompetency, both from birth and bad habits; employers take only the best men. We are not the best, so they do not take us until they are obliged."

What a contrast to the boys in the Beverly vocational school, whose two and a half year's training not only raises the capital value of each from $5,000 to $15,000 or $18,000, but makes them able to work all machines in their industry and to improve it in production and appliances.

Germany, poor in resources, has by "production of men," become great among nations. There is objection to contrasting American conditions with Germany's—our social strata, it is pointed out, are not horizontal, but are vertical and dynamic with ambitions. So long, however, as the United States sells its raw cotton abroad at 14 cents and buys it back at $40 from the Swiss, and Indiana, from almost virgin soil, grows only 14.2 bushels of wheat to the acre compared with Denmark's 42 bushels on soil cultivated for ten centuries, these vocational-education countries serve well as examples of what can be accomplished.

It is also pointed out that it is well to remember that economic stress will become greater all the time, and that nothing is so great a national menace as discontented, incompetent, idle masses. The British workers' investigating committee which went to Germany, found that the growing substitution of German wares for British wares, the increasing wealth of Germany, and the comparative quiet and contentment in Germany was largely attributable to the great imperial Bismarckan vocational education system.

The Indiana Vocational Laws

The Indiana legislature of 1911 authorized and provided for the creation of "a commission to investigate the needs of education in the different industries of Indiana and how far the needs are met by existing institutions and what new form of educational effort may be advisable." Thomas R. Marshall, then Governor of Indiana, appointed the members of that commission. They were John G. Brown, a farmer, of Monon; Frank D. McElroy, principal of the Hammond high school; Frank Duffy, secretary of the United Brotherhood of Carpenters and Joiners—one of the labor unions of largest membership in this country: Thomas G. Fitzgibbon, superintendent of the Columbus schools; John L. Ketcham, a manufacturer, of Indianapolis; Ulysses G. Weatherly, head of the department of economics in Indiana university, and Will A. Yarling, a lawyer and farmer, of Shelbyville. John A. Lapp, director of the Indiana legislative and administrative reference bureau, performed the service of secretary of the commission. This commission's work resulted, in the legislature of 1913, in enactments providing a broad vocational education policy for Indiana. The following Indiana vocational education law was the result of the enactment of a bill introduced in the lower house by Representative Joseph H. Stahl, of Fountain county, and in the upper house by Senator William A. Yarling, of Shelby county. It was approved by Governor Samuel L. Ralston on February 22, 1913.

In addition to this law a notable and vital revision was made in the truancy laws of the state. The control of the state over the child was extended two years by the provision that children between the ages of fourteen and sixteen years must be in school or at work. The revision also provides that they must get working certificates from the school authorities, and that if they leave the employment to which they are thus certified, the employer must give notice to the school authorities. This revision is looked on as providing fundamental conditions for vocational education work, without which the following law would be incomplete and lame.

Section 1. Be it enacted by the general assembly of the state of Indiana, the following words and phrases as used in this act, shall, unless a different meaning is plainly required by the context, have the following meaning:

1. "Vocational education" shall mean any education the controlling purpose of which is to fit for profitable employment.

2. "Industrial education" shall mean that form of vocational education which fits for the trades, crafts and wage earning pursuits, including the occupation of girls and women carried on in stores, workshops, and other establishments.

3. "Agricultural education" shall mean that form of vocational education which fits for the occupation connected with the tillage of the soil, the care of domestic animals, forestry and other wage earning or productive work on the farm.

4. "Domestic science" education shall mean that form of vocational education which fits for occupations connected with the household.

5. "Industrial, agricultural or domestic science school or department" shall mean an organization of courses, pupils and teachers designed to give either industrial, agricultural or domestic science education as herein defined, under a separate director or head.

6. "Approved industrial, agricultural or domestic science school or department" shall mean an organization under a separate director or head, of courses, pupils and teachers approved by the state board of education designed to give either industrial, agricultural or domestic science education as herein defined.

7. "Evening class" in an industrial, agricultural or domestic science school or department shall mean a class giving such training as can be taken by persons already employed during the working day, and which in order to be called vocational must in its instruction, deal with the subject matter of the day employment, and be so carried on as to relate to the day employment; but evening classes in domestic science relating to the home shall be open to all women over seventeen who are employed in any capacity during the day.

8. "Part time classes" in an industrial, agricultural or domestic science school or department, shall mean a vocational class for persons giving a part of their working time to profitable employment and receiving in the part time school or department, instruction complimentary to the practical work carried on in such employment. To give a part of their working time, such persons must give a part of each day, week or longer period to such part time class during the period in which it is in session.

Establishment of Schools.

Sec. 2. Any school city, town or township may through its board of school commissioners or township trustee, establish vocational schools or departments for industrial, agricultural and domestic science education in the same manner as other schools and departments are established and may maintain the same from the common school funds or from a special tax levy not to exceed 10 cents on each $100 of taxable property, or partly from the common school funds and partly from such tax. School cities, towns and townships are authorized to maintain and carry on instruction in elementary domestic science, industrial and agricultural subjects as a part of the regular course of instruction.

Classes—How Divided.

Sec. 3. In order that instruction in the principles and practice of the arts may go on together, vocational schools and departments for industrial, agricultural and domestic science education may offer instruction in day, part time and evening classes. Such instruction shall be of less than college grade and be designed to meet the vocational needs of persons over fourteen years of age who are able to profit by the instruction offered. Attendance upon such day or part time classes shall be restricted to persons over fourteen and under twenty-five years of age; and upon such evening classes to persons over seventeen years of age.

Co-operative Schools.

Section 4. Two or more school cities, towns or townships or combinations thereof, may co-operate to establish and maintain vocational schools or departments for industrial, agricultural or domestic science education or in supervising the same whenever the school board or township trustees of such school cities, towns or townships shall so determine and apportion the cost thereof among the cities, towns and townships co-operating. Whenever such co-operative schools or departments have been determined upon by any school cities, towns or townships, or combination thereof, the presidents of the school boards of the cities or towns and the township trustees of the townships co-operating shall constitute a board for the management of such school or department, such board may adopt for a period of one year or more, a plan of organization, administration and support for such school or department and the plan, if approved by the state board of education, shall constitute a binding contract between cities, towns and townships entering into a co-operation to support such schools and courses which shall be cancelled or annulled only by the vote of a majority of the school boards or township trustees of such school cities, towns or townships and the approval of the state board of education.

Studies—How Outlined.

Sec. 5. Elementary agriculture shall be taught in the grades in all towns and township schools; elementary industrial work shall be taught in the grades in all city and town schools, and elementary domestic science shall be taught in the grades in all city, town and township schools. The state board of education shall outline a course of study for each of such grades as they may determine, which shall be followed as a minimum requirement. The board shall also outline a course of study in agriculture, domestic science and industrial work, which they may require city, town and township high schools to offer as regular courses. After September 1, 1915, all teachers required to teach elementary agriculture, industrial work or domestic science shall have passed an examination in such subjects prepared by the state board of education.

State Board of Education—Duties.

Sec. 6. The state board of education is hereby authorized and directed to investigate and to aid in the introduction of industrial, agricultural and domestic science education, to aid cities, towns and townships to initiate and superintend the establishment and maintenance of schools and departments for the aforesaid forms of education; and to supervise and approve such schools and departments, as hereinafter provided. The board of education shall make a report annually to the general assembly, describing the condition and progress of industrial, agricultural and domestic science education during the year and making such recommendations as they may deem advisable.

State Board Comprised of.

Sec. 7. The state board of education shall consist of the superintendent of public instruction, the presidents of Purdue university, the State university and the State Normal school, the superintendents of schools of the three cities having the largest enumeration of children for school purposes annually reported to the state superintendent of public instruction, as provided by law, three citizens actively engaged in educational work in the state, at least one of whom shall be a county superintendent of schools, and three persons actively interested in, and of known sympathy with, vocational education, one of whom shall be a representative of employes and one of employers.

The Governor shall appoint the members of the board, except the ex officio members, for a term of four years.

In the first instance one member shall be appointed for two years, one for three years and one for four years. The present appointive members shall serve until the expiration of the time for which they were appointed. The Governor shall fill all vacancies occurring in the board for the unexpired term, and each member shall serve until his successor shall have been appointed and qualified.

The superintendent of public instruc-

tion shall, ex officio, be president of the board, and in his absence the members present shall elect a president pro tempore. The board shall elect one of its members secretary and treasurer, who shall have the custody of its records, papers and effects, and shall keep minutes of its proceedings. The records, papers, effects and minutes shall be kept at the office of the superintendent, and shall be open for inspection. The board shall meet upon the call of the president, or a majority of its members, at such place in the state as may be designated in the call. They shall adopt and use a seal, on the face of which shall be the words "Indiana state board of education," or such other device or motto as the board may direct, an impression and written description of which shall be recorded on the minutes of the board and filed in the office of the secretary of state, which seal shall be used for the authentication of the acts of the board and the important acts of the superintendent of public instruction.

The board shall have all the powers and perform all the duties now imposed by law on the state board of education.

Appointments—How Made.

Sec. 8. The state superintendent of public instruction, with the advice and approval of the state board of education, shall appoint a deputy superintendent in charge of industrial and domestic science education, who shall act under the direction of the state superintendent of public instruction in carrying out the provisions of this act. The salary and term of office of such deputy shall be fixed by the board and he shall be removable by the board only for cause.

The state superintendent, with the approval of the state board of education, is authorized to co-operate with Purdue university in the appointment of some person actively connected with the agricultural extension work at Purdue as an agent in supervising agricultural education, who shall serve in a dual capacity as an agent of the state superintendent and an assistant at Purdue university. The board and the authorities of Purdue university may fix the proportion of the salary of such agent to be borne by the state and by the university. Such person shall be subject to removal for cause by the state board of education.

All expenses incurred in discharge of their duties by deputies and agents shall be paid by the state from funds provided for in this act.

Advisory Committee.

Sec. 9. Boards of education or township trustees administering approved vocational schools and departments for industrial, agricultural or domestic science education, shall, under a scheme to be approved by the state board of education, appoint an advisory committee composed of members representing local trades, industries and occupations. It shall be the duty of the advisory committee to counsel with and advise the board and other school officials having the management and supervision of such schools or departments.

Admission to Schools—To Whom Made.

Sec. 10. Any resident of any city, town or township in Indiana, which does not maintain an approved vocational school or department for industrial, agricultural or domestic science education offering the type of training which he desires, may make application for admission to such school or department maintained by another city, town or township or any school of secondary grade maintaining an approved industrial, agricultural or domestic science school or department. The state board of education, whose decision shall be final, may approve or disapprove such application. In making such decision the board shall take into consideration the opportunities for free vocational training in the community in which the applicant resides; the financial status of the community; the age, sex, preparation, aptitude and previous record of the applicant, and all other relevant circumstances.

The school city or town or township in which the person resides, who has been admitted as above provided, to an approved vocational school or department for industrial, agricultural or domestic science education, maintained by another city, town or township or other school, shall pay such tuition fee as may be fixed by the state board of education; and the state shall reimburse such school city or town or township as provided for in this act. If any school city or town or township neglects or refuses to pay for such tuition, it shall be liable therefor in an action of contract to the school city or town or township or cities and towns and townships or other school maintaining the school which the pupil with the approval of the said board attended.

Compulsory Attendance.

Sec. 11. In case the board of education or township trustee of any city, town or township have established approved vocational schools for the instruction of youths over fourteen years of age who are engaged in regular employment, in part time classes, and have formally accepted the provisions of this section, such board of trustees are authorized to require all youths between the ages of fourteen and sixteen years who are regularly employed, to attend school not less than five hours per week between the hours of 8 a. m. and 5 p. m. during school term.

County Agent—Petition.

Section 12. Whenever twenty or more residents of a county, who are actively interested in agriculture, shall file a petition with the county board of education for a county agent, together with a deposit of $500. to be used in defraying expenses of such agent, the county board of education shall file said petition, within thirty days of its receipt, with the county council, which body shall, upon receipt of such petition, appropriate annually the sum of $1,500 to be used in paying the salary and other expenses of said county agent. When the county appropriation has been made the county board of education shall apply to Purdue university for the appointment of a county agent whose appointment shall be made annually and be subject to the approval of the county board of education, and the state board of education. When such appointment has been made, there shall be paid annually from the state fund provided for in this act, to Purdue university, to be paid to the county providing for a county agent, an amount sufficient to pay one-half the annual salary of the county agent appointed as herein provided: Provided, that not more than $1,000 shall be appropriated to any one county. Provided, further, that not more than thirty (30) counties during the year ending September 30, 1914; and sixty (60) counties during the year ending September 30, 1915, shall be entitled to state aid. It shall be the duty of such agent, under the supervision of Purdue university, to co-operate with farmers' institutes, farmers' clubs and other organizations, conduct practical farm demonstrations, boys' and girls' clubs and contest work and other movements for the advancement of agriculture and country life and to give advice to farmers on practical farm problems and aid the county superintendent of schools and the teachers in giving practical education in agriculture and domestic science. The county board of education is hereby authorized to file monthly bills covering salary and expenses of county agent, the same to be approved by Purdue university, with the county auditor who shall draw his warrant or warrants on the county treasurer for the payment of same.

Cities and Towns—Reimbursed.

Sec. 13. Vocational schools or departments for industrial, agricultural and domestic science education shall, so long as they are approved by the state board of education as to organization, location, equipment, courses of study, qualifications of teachers, methods of instruction, conditions of admission, employment of pupils and expenditure of money, constitute approved vocational schools or departments. School cities and towns and townships maintaining such approved vocational schools shall receive reimbursement as provided in this act.

State Maintenance.

Sec. 14. The state, in order to aid in the maintenance of approved vocational schools or departments for industrial, agricultural and domestic science education, shall, as provided in this act, pay annually to school cities and towns and townships maintaining such schools and departments an amount equal to two-thirds of the sum expended for instruction in vocational and technical subjects authorized and approved by the state board of education. Such cost of instruction shall consist of the total amount raised by local taxation and expended for the teachers of approved vocational and technical subjects. School cities and towns and townships that have paid claims for tuition in approved vocational schools shall be reimbursed by the state as provided in this act, to the extent of one-half the sums expended by such school cities and towns and townships in payment of such claims.

Claims for Reimbursement.

Sec. 15. Any school city, town or township having claims for reimbursement against the state under the provisions of this act shall present the same to the state board of education on or before July 1st of each year immediately following the completion of the work for which they are entitled to reimbursement from the state. The board shall if they approve the claim authorize its payment by the auditor of state who shall thereupon draw his warrant on the treasurer of state for the payment of the amount due such school city, town or township, from the fund provided in this act.

Annual Levy.

Sec. 16. To provide a state fund to carry out the provisions of this act, there shall be levied annually as a part of the state common school levy an additional levy of one cent on each one hundred dollars of taxable property in the state, which shall constitute a fund for the purposes of this act. Any part of the fund remaining at the close of any fiscal year shall be placed by the treasurer of state in a permanent fund for vocational education, the proceeds of which shall be used to aid in carrying out the provisions of this act.

Salaries and Expenses.

Sec. 17. A sum sufficient to pay the salaries and expenses of the deputies, agents and employes in carrying out the provisions of this act, and an amount sufficient to carry out the provisions of Section 12 is hereby appropriated annually for two years, to be available on and after April 1, 1913. Thereafter all salaries and expenses shall be paid from the fund provided for in this act.

When Effective.

Sec. 18. This act shall take effect as to the provisions for state aid to approved vocational schools at the beginning of the school year 1914-1915. All other provisions of this act, including the provisions for a county agent, as provided in Section 12, shall be in force from and after its publication.

Repeal.

Sec. 19. All laws and parts of laws in conflict herewith are hereby repealed.